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ABSTRACT

The National Assessment of Educational Progress' (NAEP) 1992 reading assessment was administered to nationally representative samples of fourth-, eighth-, and twelfth-grade students attending public and private schools, and to state representative public-school samples of fourth graders in 43 jurisdictions. Nearly 140,000 students were assessed in all. Data were summarized on the NAEP reading proficiency scale ranging from 0 to 500, and results were reported according to three achievement levels at each grade--basic, proficient, and advanced. Major findings were that (1) 59% of the fourth graders, 69% of eighth graders, and 75% of twelfth graders reached the basic level or beyond; (2) 25%, 28%, and 37% of grade 4, 8, and 12 students met or exceeded the proficient level, respectively; (3) from 2% to 4% of students at any of the grade levels achieved the "advanced" performance level; (4) fourth graders within the basic level generally understood simple narratives; (5) eighth graders reading within the basic level demonstrated literal understanding of passages; (6) twelfth graders within the basic level were able to interpret aspects of the passages they read and make connections between their reading and their own knowledge; (7) students attending private schools had higher average reading proficiency than students at public schools; (8) considerable variation in performance existed within and across participating states; (9) females had higher average reading proficiency than males at all three grade levels; and (10) fourth graders appeared to be learning reading through varied instructional approaches. (Contains 67 tables and 9 figures of data; a detailed description of anchoring the achievement levels, an overview of procedures, state contextual background factors, and reading passages are attached.) (RS)

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NAEP 1992 Reading Report Card for the Nation and the States

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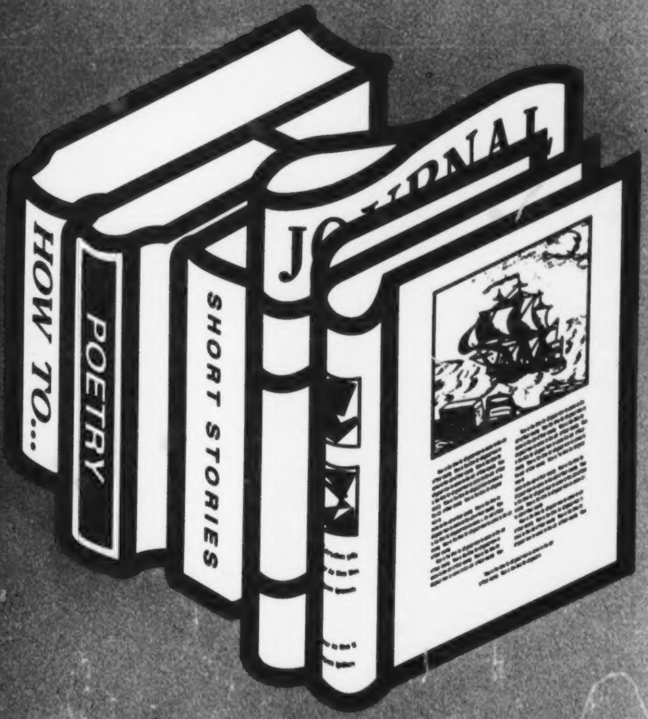

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THE NATION'S REPORT CARD, the National Assessment of Educational Progress (NAEP), is the only nationally representative and continuing assessment of what America's students know and can do in various subject areas. Since 1969, assessments have been conducted periodically in reading, mathematics, science, writing, history/geography, and other fields. By making objective information on student performance available to policymakers at the national, state, and local levels, NAEP is an integral part of our nation's evaluation of the condition and progress of education. Only information related to academic achievement is collected under this program. NAEP guarantees the privacy of individual students and their families.

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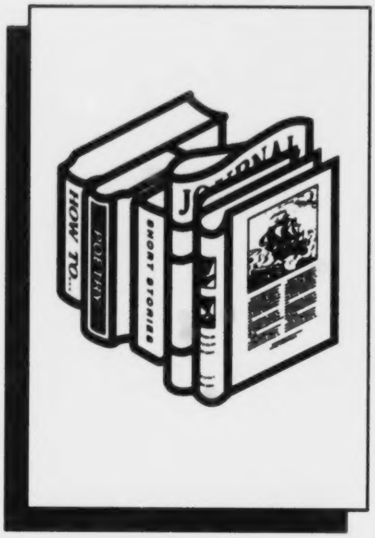

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INTRODUCTION

The National Assessment of Educational Progress (NAEP) is a Congressionally mandated project of the National Center for Education Statistics (NCES) that has collected and reported information for nearly 25 years on what American students know and what they can do. It is the nation's only ongoing, comparable, and representative assessment of student achievement. Its assessments are given to scientifically selected samples of youths attending both public and private schools and enrolled in grades four, eight, or twelve. The assessment questions are written around a framework prepared for each content area -- reading, writing, mathematics, science, and others -- that represents the consensus of groups of curriculum experts, educators, members of the general public, and user groups on what should be covered on such an assessment. Reporting includes means and distributions of scores, as well as more descriptive information about the meaning of the data.

New Reading Assessment Framework and Questions

The goal of the National Center for Education Statistics is to make data available for the public and to do so in accurate and understandable ways that are not misleading. The task is challenging because much of what matters in NAEP is changing:

- the *content* in response to the developing standards of various curricular groups;
- the *assessment questions* in response to new developments in assessments; and
- the *reporting* in response to increasing interest in student achievement relative to standards of student performance.

The framework for NAEP's 1992 reading assessment considered students' performance in situations that involved reading different kinds of materials for different purposes. The reading assessment measured three global purposes for reading -- **reading for literary experience, reading to gain information**, and

reading to perform a task. (The third purpose for reading -- reading to perform a task -- was not assessed at grade 4.) Reading for literary experience usually involves the reading of novels, short stories, plays, and essays. In these reading situations, the reader explores or uncovers experiences through the text and considers the interplay among events, emotions, and possibilities. Reading to gain information usually involves the reading of articles in magazines and newspapers, chapters in a textbook, entries in encyclopedias and catalogs, and entire books on particular topics. These reading situations call for different orientations to text from those in reading for literary experience because readers are specifically focused on acquiring information. Reading to perform a task involves reading various types of materials for the purpose of applying the information or directions in completing a specific task. Reading materials used for this purpose may include schedules, directions, or instructions for completing forms.

The assessment asks students to build, extend, and examine text meaning from four stances or orientations:

- ***Initial Understanding*** -- comprehending the overall or general meaning of the selection.
- ***Developing an Interpretation*** -- extending the ideas in the text by making inferences and connections.
- ***Personal Response*** -- making explicit connections between ideas in the text and a student's own background knowledge and experiences.
- ***Critical Stance*** -- considering how the author crafted a text.

These stances are not considered hierarchical or completely independent of each other, but are iterative. They provide a frame for generating questions and considering student performance at all levels.

The 1992 NAEP reading assessment uses a variety of innovative assessment approaches that are considered significant advancements over previous assessments. In addition to multiple-choice questions, the assessment primarily includes constructed-response questions that ask students to demonstrate comprehension beyond a surface level. Also, longer and naturally-occurring reading materials are used to provide more realistic reading experiences than in previous assessments.

Taken together, the changes in the 1992 reading framework and assessment activities preclude any comparisons between the results in this report and those for previous NAEP reading assessments.[1] If the current NAEP framework is used in the future, as planned in the 1994 assessment, the 1992 reading data will supply the basis for a trend report comparing 1992 with future performance.

A Transition in Reporting

Over time there have been many changes in emphasis of NAEP reporting, both to take advantage of new technologies and to reflect changing trends in education. In 1984, a new technology called Item Response Theory (IRT) made it possible to create "scale scores" for NAEP similar to those the public was accustomed to seeing for the annual Scholastic Aptitude Test (SAT). Educational Testing Service, in its role as Government grantee carrying out NAEP operations, devised a new way to describe performance against this scale, called "anchor levels." Starting in 1984, NAEP results were reported by "anchor levels." Anchor levels describe performance at selected points along the NAEP scale (i.e., standard deviation units). Anchor levels show how groups of students perform relative to each other, but not whether this performance is adequate.

In 1988, Congress established the National Assessment Governing Board (NAGB), assigning it broad policy making authority over NAEP, including the authority to take "appropriate actions ... to improve the form and use of the National Assessment" and to identify "appropriate achievement goals for each ... grade and subject area to be tested in the National Assessment." To carry out its responsibilities, NAGB developed "achievement levels," which are collective judgments about how students *should* perform relative to a body of content reflected in the NAEP frameworks. The result is translated onto ranges along the NAEP scale. For the 1992 reading assessment, this process was conducted for NAGB under contract by American College Testing (ACT), which has extensive experience in standard-setting in many fields.

With this background, the initial reports for the 1992 reading assessment mark NCES's continued attempt to shift to standards-based reporting of National Assessment statistics. The first transition to reporting NAEP results by achievement levels was for the NAEP 1992 Trial State Assessment in mathematics.[2] The impetus for this transition lies in the belief that NAEP data will take on more meaning for the public if they show what proportion of our youth are able to meet judgmental standards of performance.

---

[1] NAEP will continue to report trends in reading proficiency as compared to the past 20 years by readministering the long-term reading trend assessment. Long-term trends in reading achievement as well as in mathematics, science, and writing will be the topic of a subsequent report.

Reporting NAEP results on the basis of achievement levels represents a significant change in practice for NCES. On occasion, this agency makes use of emerging analytical approaches that permit new, and sometimes controversial analyses to be done. When doing so, this agency, just as other statistical agencies do when introducing new measures to supplement or replace old measures, also has provided the data according to the earlier procedures in addition to the new ones. In the case of the 1992 mathematics assessment, for example, the "anchor levels" or "scale anchoring" method of reporting was presented in an appendix.

In this assessment, the "scale anchoring" methodology used by NAEP since 1985 has been used but in a new way. As implemented for this report, the scale anchoring process applies not to regular scale intervals (standard deviation units), but to the achievement levels established for fourth-, eighth-, and twelfth-grade students.[3] The full description and results of this procedure are presented in Appendix A. The critical distinction here is that setting achievement levels attempts to describe what students *should be able to do* in various ranges of the NAEP scale while the anchoring procedure attempts to describe what they *can do* at those achievement levels, using actual student performance data from the NAEP assessments.

Chapter 1 of this report describes how the 1992 standards were prepared and provides examples of assessment questions that illustrate the reading content reflected in the descriptions of the NAEP achievement levels. Chapters 2 - 6 include information on overall means, distributions of reading proficiency, and background questionnaire data, all taken directly from the results of the assessment questions.

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[2] For a summary of the 1992 assessment of mathematics, see *NAEP 1992 Mathematics Report Card for the Nation and the States* (Washington, DC: National Center for Education Statistics, 1993) and the individual 1992 Mathematics State Reports.

[3] First, students at each grade were identified who performed at or around the three achievement levels on the scale. Next, questions were identified that were answered correctly by 65 percent or more of the students at the cutpoint for that achievement level. Finally, reading educators were asked to analyze each anchor-level question and create summary descriptions of the skills and abilities evidenced by students at each grade who answered these sets of questions successfully.

Continuing Development Effort

We believe that the numerous completed and ongoing studies[4] will lead to national debate that can assure the public is well informed about these issues -- as informed they must be because the results will be a vital influence on what Americans come to think about the condition and progress of our schools. Indeed, measures of student learning may be as significant a basis for public understanding about our nation's education system as the Consumer Price Index and the monthly unemployment statistics are in informing the public about our nation's economy.

In addition, members of the public need the data in this report to see for themselves what standards-based reporting might do and to evaluate the often conflicting claims of adherents and detractors of these changes in approaches to reporting on the educational achievement of American students. Reporting NAEP results to the public would be more clear if the language of the achievement levels, or standards, could also directly describe what students know and can do. In order to accomplish that, the frameworks, assessment questions, and achievement levels may need to be developed in tandem. That is easier to say than to do, however, because it implies a substantially larger pool of assessment questions, carefully designed to support reporting about performance relative to a set of performance standards. Clearly this is a developmental effort that will take time and several iterations, during which data supporting appropriate inferences about the performance of American students will be gathered on a continuing basis.

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[4] *Setting Achievement Levels for the Nation,* The Second Report of the National Academy of Education Panel on the Evaluation of the NAEP Trial State Assessment (1992 Trial State Assessment). (Stanford, CA: National Academy of Education, 1993).

Education Achievement Standards, NAGB's Approach Yields Misleading Interpretations. United States General Accounting Office Report to Congressional Requestors (Washington, DC: United States General Accounting Office, June 1993) GAO/PEMD-93-12 Educational Achievement Standards.

Assessing Student Achievement in the States, The First Report of the National Academy of Education Panel on the Evaluation of the NAEP Trial State Assessment (1990 Trial State Assessment). (Stanford, CA: National Academy of Education, 1992).

Robert L. Linn, Daniel M. Koretz, Eva L. Baker, and Leigh Burstein, *The Validity and Credibility of the Achievement Levels for the 1990 National Assessment of Educational Progress in Mathematics,* Technical Report CSE No. 330 (Los Angeles, CA: Center for Research on Evaluation, Standards, and Student Testing, UCLA, 1991).

EXECUTIVE SUMMARY

NAEP's 1992 reading assessment represents an innovative effort to measure the reading achievement of our nation's students in grades 4, 8, and 12. The *NAEP Reading Framework* underlying the assessment encompasses a forward-looking view of reading as a dynamic, interactive, and constructive process, where reading purposes or situations interact with various skills or stances that readers can take. The assessment is based on naturally-occurring reading materials that provide a longer, more realistic reading experience than previous reading assessments, and the questions primarily required students to construct their own written responses.

The assessment was administered to nationally representative samples of fourth-, eighth-, and twelfth-grade students attending public and private schools, and to state representative public-school samples of fourth graders in 43 jurisdictions. Nearly 140,000 students were assessed in all. The data were summarized on the NAEP reading proficiency scale ranging from 0 to 500, and the results are reported according to three achievement levels at each grade -- Basic, Proficient, and Advanced.

Major Findings

- Fifty-nine percent of the fourth graders, 69 percent of the eighth graders, and 75 percent of the twelfth graders were estimated to have reached the Basic level or beyond, indicating at least partial mastery of the knowledge and skills needed for proficient work at each grade.

- For grades 4, 8, and 12, the percentages of students estimated to have met or exceeded the Proficient achievement level were 25, 28, and 37 percent, respectively. Proficient, the central level, represents solid academic performance and competency over challenging subject matter.

- The Advanced achievement level signifies superior performance beyond Proficient. Very few students at any of the three grades assessed attained the Advanced level -- from 2 to 4 percent.

- Fourth graders reading within the Basic level generally understood simple narratives. They could identify important details and relate this information to their own experiences. Fourth graders within the Proficient level employed both inferential and literal information in reading more difficult, unfamiliar pieces. Those at the Advanced level were able to extend, elaborate, and examine the meaning of literary and informative texts. They provided supported generalizations and displayed an awareness of how writers use language and literary devices in their work. However, few answered the constructed-response questions in much depth.

- Eighth graders reading within the Basic level demonstrated literal understanding of passages. They were able to identify main ideas, recognize relationships between ideas in text, and provide personal reactions to what they read. Eighth-grade students within the Proficient level demonstrated an overall understanding of what they read that included literal as well as inferential information. They were successful in providing evidence of their comprehension with brief written responses. At the Advanced level, eighth-grade students were beginning to demonstrate more thorough and thoughtful answers when extended constructed responses were required. These Advanced students could more fully integrate prior knowledge with text interpretations.

- Twelfth graders within the Basic level were able to interpret aspects of the passages they read and make connections between their reading and their own knowledge and experience. They had success in gaining explicit information from passages that were lengthy and somewhat complex. Proficient readers in the twelfth grade could make appropriate inferences and extend the meaning of text by connecting ideas and concepts in what they read with other readings, as well as their own experiences. These students were beginning to provide more extensive constructed responses demonstrating essential comprehension. At the Advanced level, twelfth graders were able to analyze texts from the perspective of both meaning and form, as well as express their understandings with detailed examples and inferences drawn from text and personal knowledge. In addition, they demonstrated the ability to integrate text and document directions to complete a task accurately and thoroughly.

- At all three grades, students attending private schools (either Catholic or other private schools) had higher average reading proficiency than students attending public schools.

- At grade 4, performance across the regions was similar. At grades 8 and 12, students in the Southeast had lower average reading proficiency than did students in Northeast, Central, and West.

- Within and across participating states, the District of Columbia, and Guam, there was considerable variation in performance.

  -- The percentages of fourth graders estimated to be at the Basic level or beyond ranged from 25 to 73 percent, although for most participating jurisdictions the majority of fourth graders reached the Basic level.

  - The percentages of fourth graders estimated to have reached the Proficient level ranged from 6 to 34 percent, with approximately one-fifth or more reaching this level in most jurisdictions.

  - Very few fourth graders in any state -- an estimated 1 to 6 percent -- reached the Advanced level.

- The 14 states with the highest average reading proficiency included: New Hampshire, Maine, Massachusetts, North Dakota, Iowa, Wisconsin, Wyoming, New Jersey, Connecticut, Nebraska, Indiana, Minnesota, Virginia, and Pennsylvania.

Results for Student Subgroups

- In general, at all three grades, White and Asian/Pacific Islander students had higher average reading proficiency than Hispanic, Black, and American Indian students. (At grade 4, average proficiency between Asian/Pacific Islander and American Indian students did not differ statistically.)

- Females had higher average reading proficiency than males at all three grades.

- Students attending schools in advantaged urban communities had higher average proficiency than students attending schools in extreme rural, disadvantaged urban, or other types of communities. Students in disadvantaged urban communities had lower average proficiency than students in any of the other three types of communities.

- The subgroup results for fourth graders participating in the Trial State Assessment Program tended to reflect the national patterns at grade 4, although there were variations and relative performance sometimes varied across the states within subgroup. For example, advantaged urban fourth graders in Colorado were among those from the lowest 20 percent of the states, while disadvantaged urban fourth graders performed in the second to highest 20 percent performance band. Advantaged urban students, however, did have higher average proficiency than the disadvantaged urban students.

Fourth-grade Reading Instruction

- Teachers reported that about one-third (31 percent) of the fourth graders were receiving about 30 to 45 minutes of reading instruction per day, about half (51 percent) were receiving about 60 minutes, and the rest (18 percent) were receiving 90 minutes or more.

- Fourth graders appeared to be learning reading through varied instructional approaches. According to their teachers: 61 percent were receiving at least moderate emphasis in phonics instruction, 82 percent were receiving at least moderate emphasis in whole language instruction, 88 percent were receiving moderate emphasis in literature-based reading, and almost all (98 percent) were receiving at least moderate emphasis in integrating reading and writing skills. Fewer students, however, were receiving heavy emphasis in phonics instruction (11 percent) than in the other three instructional approaches (40 to 54 percent).

- More than one-third of the fourth graders (36 percent) had teachers indicating that they relied solely on basal materials for their reading instruction, although about half (49 percent) were being taught through a combination of both basal and trade books. Only 15 percent were being taught without basal materials.

- According to their teachers, worksheets and workbooks were a daily feature of reading instruction for 33 percent of the fourth graders and another 48 percent did such exercises on at least a weekly basis. In comparison, one-half (51 percent) of the fourth graders themselves reported that they used workbooks and worksheets on a daily basis.

- Teachers reported that 72 percent of the fourth graders wrote about what they read on at least a weekly basis (and 56 percent of the students so reported).

- Both the teachers and their students agreed about how frequently students read silently and read books of their own choosing. More than half engaged in both activities almost every day.

- To assess students' progress in reading, teachers reported relying less on multiple-choice tests than on having students write paragraphs about what they have read.

- At grade 4, students whose teachers reported heavy emphasis in literature-based reading instruction had higher average proficiency than students who received little or no such emphasis. A similar (but non-statistically significant) pattern was noted for instructional emphasis on integrating reading and writing. These findings are consistent with research about the instructional effectiveness of these approaches. On the other hand, teachers may tend to use literature and writing activities more often with the more proficient fourth graders and less often with those who are less fluent readers.

- In comparison, those students whose teachers reported heavy emphasis in phonics instruction had lower average proficiency than students receiving little or no such emphasis. Although some educators have argued that after a certain point stressing a phonics approach can inhibit learning, it is more likely that the tendency to use phonics with young readers carries over into remedial situations. The small percentage of fourth graders receiving heavy emphasis in phonics may be those needing special attention. Greater percentages of fourth graders in the lower one-third performing schools than in the upper one-third performing schools were receiving heavy instructional emphasis in phonics.

- As reported by teachers, students' average proficiency did not vary much with more or less use of various instructional materials and strategies. However, when students' own reports were considered, the higher-performing students were those who did regular workbook assignments, read silently on a daily basis, and were given time to read books of their own choosing.

Reading Habits and Practices

- At all three grades, students who reported reading more frequently for fun on their own time had higher average reading proficiency than those who reported reading less frequently.

- Thirteen percent of the fourth graders reported never or hardly ever reading for fun on their own time and 44 percent reported doing so almost every day. Less frequent leisure reading was reported by eighth and twelfth graders than by fourth graders. At both grades 8 and 12, fewer than one-fourth of the students reported such reading daily and about one-fourth reported never or hardly ever reading for fun on their own time.

- At all three grades, students who reported at least weekly discussion about their reading with friends or family had higher average reading proficiency than students who reported little or no such discussion.

- At least weekly discussion about their reading with friends or family was reported by 62 percent of the fourth graders, 41 percent of the eighth graders, and 55 percent of the twelfth graders.

- At all three grades, students who reported watching six or more hours of television each night had substantially lower average proficiency than their counterparts who reported less viewing.

- Twenty percent of the fourth graders, 14 percent of the eighth graders, and 6 percent of the twelfth graders reported watching six or more hours of television per day.

- Sixty-one percent of the fourth graders, 65 percent of the eighth graders, and 47 percent of the twelfth graders reported watching three or more hours of television per day. At grades 8 and 12, students watching this much television had lower average proficiency than their classmates. At grade 4, those watching four or more hours had lower average proficiency than less frequent viewers.

Achievement Levels

As part of its statutory responsibilities, the National Assessment Governing Board (NAGB) established three achievement levels for reporting NAEP results: Basic, Proficient, and Advanced. The Basic level denotes partial mastery of the knowledge and skills fundamental for proficient work at each grade. Proficient, the central level, represents solid academic performance and demonstrated competence over challenging subject matter. This is the achievement level the Board has determined all students should reach. The Advanced level signifies superior performance beyond Proficient. The process of setting achievement levels incorporated the views of a broadly representative body of teachers, administrators, and interested members of the public, and enables NAEP data to be reported in terms of what students *should* be able to do. A scale anchoring process provides information about what students *can* do at those achievement levels using actual student performance data from the NAEP assessments.

Because the process of setting the reading achievement levels centered on the descriptions of what students *should* be able to do, it is also important to explore whether or not students *actually met* the expectations for performance at the Basic, Proficient, and Advanced levels. To anchor the achievement levels, students' performance at each of the achievement levels was examined relative to each individual assessment question to determine at which achievement level students demonstrated success on the question (at least 65 percent answered correctly). The sets of questions so identified were thoroughly analyzed by reading experts and educators to describe reading performance at each achievement level.

The chart on pages 14 and 15 summarizes the operational definitions of the achievement levels and the anchor descriptions for grades 4, 8, and 12. It also presents the percentages of students performing at or above each achievement level.

For example, looking in the upper left-hand corner of the chart, at grade 4, Advanced-level students *should* be able to generalize about text topics and demonstrate an awareness of how authors compose and use literary devices. They should be able to judge texts critically and give thorough answers that indicate careful thought. As demonstrated by their *actual* answers to assessment questions, Advanced-level fourth graders interpreted and examined text meaning, summarized information across texts, developed their own ideas from the texts, understood some literary devices, and were beginning to be able to formulate more complex questions about text.

Looking at the most difficult achievement level (lower left-hand corner of the chart), Advanced-level twelfth graders *should* be able to describe abstract themes, provide explicitly supported text analyses, relate text information to their own experiences and the world, and provide thorough, thoughtful, and extensive answers. Twelfth grade students at the Advanced level *did* construct complex understandings across genre and about characters, connect their discipline specific knowledge to ideas in the texts, examine authors' devices, judge the value of informative sources, and suggest improvements for documents.

Because NAEP's 1992 reading assessments were developed prior to the Board's development of the achievement levels, the correspondence between the assessment questions and the operational definitions is sometimes uneven. Nevertheless, as called for in the Basic achievement levels, substantial proportions of students demonstrated understanding of reading materials considered straightforward for their grade. However, very few, at any grade, were able to examine more complex materials and extend their thinking beyond the information presented as defined at the Advanced level. Only a handful of students at this top level were able to provide the thorough, thoughtful, and extensive answers expected by the standards setting panelists.

National Assessment of Educational Progress

GRADE 4	Percentage At or Above ADVANCED: [illegible]	Scale Location: 275
Average Proficiency: 218 (1.0)*	**Achievement Level Description**	**Anchoring Description**
	Fourth-grade students at the **Advanced level** **should be able to generalize about topics in the reading selection and demonstrate an awareness of how authors compose and use literary devices**. When reading text appropriate to 4th grade, **they should be able to judge texts critically and, in general, give thorough answers that indicate careful thought**.	Fourth-grade students at the **Advanced level** were able to interpret and examine the meaning of text. They summarized information across whole texts, developed their own ideas about textual information, understood some literary devices, and were beginning to formulate more complex questions about text.

GRADE 8	[illegible]	[illegible]
Average Proficiency: 260 (0.9)*	**Achievement Level Description**	**Anchoring Description**
	Eighth-grade students performing at the **Advanced level** **should be able to describe the more abstract themes and ideas of the overall text**. When reading text appropriate to 8th grade, **they should be able to analyze both meaning and form and support their analyses explicitly with examples from the text; they should be able to extend text information by relating it to their experiences and to world events**. At this level, student **responses should be thorough, thoughtful, and extensive**.	Eighth-grade students at the **Advanced level** compared and contrasted information across multiple texts. They could connect inferences with themes, understand underlying meanings, and integrate prior knowledge with text interpretations. They also demonstrated some ability to evaluate the limitations of documents.

GRADE 12	[illegible]	[illegible]
Average Proficiency: 291 (0.6)*	**Achievement Level Description**	**Anchoring Description**
	Twelfth-grade students performing at the **Advanced level** **should be able to describe more abstract themes and ideas in the overall text**. When reading text appropriate to 12th grade, **they should be able to analyze both the meaning and the form of the text and explicitly support their analyses with specific examples from the text**. They **should be able to extend the information from the text by relating it to their experiences and to the world**. Their **responses should be thorough, thoughtful, and extensive**.	Twelfth-grade students at the **Advanced level** constructed complex understandings of multiple passages representing different genres. They could interpret multidimensional aspects of characters and connect discipline-specific knowledge to text. They examined authors' devices, judged the value of informative sources, and suggested improvements for documents.

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†ACHIEVEMENT LEVEL describes what students should be able to do based on the judgments of broadly representative panels of teachers, administrators, and interested members of the general public. ANCHORING describes what students can do based on the assessment results as summarized by reading experts and educators. Both the achievement level and anchoring descriptions are cumulative from Basic through Advanced.

*Average Proficiency on NAEP's 1992 Reading Scale, which ranges from 0 to 500.

( ) The standard errors of the estimated proficiencies and percentages appear in parentheses.

— 1992 Reading Assessment at a Glance†

[illegible]		[illegible]	
Achievement Level Description	**Anchoring Description**	**Achievement Level Description**	**Anchoring Description**
Fourth-grade students at the **Proficient level** **should be able to demonstrate an overall understanding of the text, providing inferential as well as literal information.** When reading text appropriate to 4th grade, **they should be able to extend the ideas in the text by making inferences, drawing conclusions, and making connections to their own experiences. The connection between the text and what the student infers should be clear.**	Fourth-grade students at the **Proficient level** could understand and interpret less familiar texts. They provided textual support for interpretations, generalized across text, identified relevant information, understood subtleties in aspects of a story, related text to background experiences, and formulated simple questions.	Fourth-grade students at the **Basic level** **should demonstrate an understanding of the overall meaning of what they read.** When reading text appropriate for 4th graders, **they should be able to make relatively obvious connections between the text and their own experiences.**	Fourth-grade students at the **Basic level** could understand uncomplicated narratives and high-interest informative texts. They identified obvious themes, located explicit information, summarized parts of text, and made judgments about characters' actions.
[illegible]		[illegible]	
Achievement Level Description	**Anchoring Description**	**Achievement Level Description**	**Anchoring Description**
Eighth-grade students performing at the **Proficient level** **should be able to show an overall understanding of the text, including inferential as well as literal information.** When reading text appropriate to 8th grade, **they should extend the ideas in the text by making clear inferences from it, by drawing conclusions, and by making connections to their own experiences — including other reading experiences.** Proficient 8th graders **should be able to identify some of the devices authors use in composing text.**	Eighth-grade students at the **Proficient level** were able to move beyond surface understanding of a text or multiple texts. They made inferences about characters and themes, linked generalizations to specific details, supported their opinions about text, recognized an author's intentions, and used a document to solve simple problems.	Eighth-grade students performing at the **Basic level** **should demonstrate a literal understanding of what they read and be able to make some interpretations.** When reading text appropriate to 8th grade, **they should be able to identify specific aspects of the text that reflect the overall meaning, recognize and relate interpretations and connections among ideas in the text to personal experience, and draw conclusions based on the text.**	Eighth-grade students at the **Basic level** could understand passages representing familiar genres. They identified literal information, recognized central themes or topics, and identified the central purpose of practical documents. They interpreted and described character traits and connected information from across text.
[illegible]		[illegible]	
Achievement Level Description	**Anchoring Description**	**Achievement Level Description**	**Anchoring Description**
Twelfth-grade students performing at the **Proficient level** **should be able to show an overall understanding of the text which includes inferential as well as literal information.** When reading text appropriate to 12th grade, **they should be able to extend the ideas of the text by making inferences, drawing conclusions, and making connections to their own personal experiences and other readings. Connections between inferences and the text should be clear, even when implicit.** These **students should be able to analyze the author's use of literary devices.**	Twelfth-grade students at the **Proficient level** integrated background experiences and knowledge with meaning from a variety of texts. They could interpret characters' motives and consider differing points of view. They were able to interpret literary devices, identify text structure and writing style, and apply document information to solve complex problems.	Twelfth-grade students performing at the **Basic level** **should be able to demonstrate an overall understanding and make some interpretations of the text.** When reading text appropriate to 12th grade, **they should be able to identify and relate aspects of the text to its overall meaning, recognize interpretations, make connections among and relate ideas in the text to their personal experiences, and draw conclusions.** They **should be able to identify elements of an author's style.**	Twelfth-grade students at the **Basic level** could develop interpretations from a variety of texts. They understood overall arguments, recognized explicit aspects of plot and characters, and supported global generalizations. They were able to respond personally to texts, and use major document features to solve real-world problems.

SOURCE: National Center for Education Statistics, National Assessment of Educational Progress (NAEP), 1992 Reading Assessment.

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TABLE 1 presents average reading proficiency and performance at the achievement levels at grades 4, 8, and 12. Comparable information for students attending public, Catholic, and other private schools is presented in TABLE 2. As can be seen, students attending private schools outperformed their public-school counterparts. The regional results are found in TABLE 3. The results across the regions were comparable at grade 4, but at grades 8 and 12 students in the Southeast trailed behind those in the other three regions of the country. Average proficiency and achievement level data for the jurisdictions in the Trial State Assessment Program at grade 4 are shown in TABLE 4. Even though there was considerable variation in performance across the states, the results tended to parallel those of the nation. Percentages of students reaching the Advanced level were low, although for most participants a majority of fourth graders reached the Basic level, and one-fifth or more reached the Proficient level. (Please note that the national and regional results included in TABLE 4 and in other tables containing state data will differ from those provided for all students across the nation, which include students in both public and private schools. To be comparable to the data for the jurisdictions participating in the Trial State Assessment Program, the national and regional results in the state tables are based only on students attending public schools. Also, the national and regional data in these tables is from the national assessment at grade 4 and not from an aggregate of the state data. The voluntary nature of NAEP's Trial State Assessment Program does not guarantee representative national or regional results, since not all states participate.)

TABLE 1 **National Overall Average Reading Proficiency and Achievement Levels, Grades 4, 8, and 12, 1992 Reading Assessment**

Grades	Average Proficiency	Percentage of Students At or Above			Below Basic
		Advanced	Proficient	Basic	
4	218(1.0)	4(0.5)	25(1.1)	59(1.1)	**41(1.1)**
8	260(0.9)	2(0.3)	28(1.1)	69(1.0)	**31(1.0)**
12	291(0.6)	3(0.3)	37(0.8)	75(0.7)	**25(0.7)**

The standard errors of the estimated percentages and proficiencies appear in parentheses. It can be said with 95 percent certainty that for each population of interest, the value for the whole population is within plus or minus two standard errors of the estimate for the sample. In comparing two estimates, one must use the standard error of the difference (see Appendix for details).

SOURCE: National Assessment of Educational Progress (NAEP), 1992 Reading Assessment.

TABLE 2 Average Reading Proficiency and Achievement Levels by Type of School, Grades 4, 8, and 12

	Percentage of Students	Average Proficiency	Percentage of Students At or Above			Below Basic
			Advanced	Proficient	Basic	
Grade 4						
Public Schools	88(1.3)	216(1.1)	4(0.6)	24(1.2)	57(1.2)	**43(1.2)**
Catholic Schools	8(0.8)	230(2.2)	7(1.5)	36(2.7)	73(2.5)	**27(2.5)**
Other Private Schools	4(1.1)!	236(5.3)!	10(2.9)	43(8.1)	78(4.2)	**22(4.2)**
Grade 8						
Public Schools	89(0.8)	258(1.0)	2(0.3)	25(1.1)	67(1.1)	**33(1.1)**
Catholic Schools	6(0.6)	275(1.9)	4(1.0)	43(2.7)	84(1.6)	**16(1.6)**
Other Private Schools	4(0.8)	283(3.0)	7(2.2)	52(4.8)	90(2.6)	**10(2.6)**
Grade 12						
Public Schools	87(1.2)	289(0.7)	3(0.3)	34(0.9)	73(0.9)	**27(0.9)**
Catholic Schools	9(1.2)	306(1.5)	6(0.8)	55(2.8)	91(1.2)	**9(1.2)**
Other Private Schools	4(0.7)	308(3.0)	10(1.5)	58(4.3)	87(2.6)	**13(2.6)**

The standard errors of the estimated percentages and proficiencies appear in parentheses. It can be said with 95 percent certainty for each population of interest, the value for the whole population is within plus or minus two standard errors of the estimate for the sample. In comparing two estimates, one must use the standard error of the difference (see Appendix for details). Percentages may not total 100 percent due to rounding error. !Interpret with caution -- the nature of the sample does not allow accurate determination of the variability of this estimated statistic.

SOURCE: National Assessment of Educational Progress (NAEP), 1992 Reading Assessment.

TABLE 3 Average Reading Proficiency and Achievement Levels by Region, Grades 4, 8, and 12, 1992 Reading Assessment

	Percentage of Students	Average Proficiency	Percentage of Students At or Above			Below Basic
			Advanced	Proficient	Basic	
Grade 4						
Northeast	21(1.1)	223(3.7)	7(2.2)	31(4.1)	63(3.5)	**37(3.5)**
Southeast	23(1.0)	214(2.4)	4(0.7)	21(2.5)	54(3.2)	**46(3.2)**
Central	27(0.5)	221(1.4)	4(0.9)	26(2.1)	63(2.0)	**37(2.0)**
West	28(0.8)	215(1.5)	4(0.6)	24(1.4)	56(1.8)	**44(1.8)**
Grade 8						
Northeast	22(0.7)	263(1.8)	3(0.4)	31(1.9)	71(2.3)	**29(2.3)**
Southeast	25(0.5)	254(1.7)	1(0.4)	22(2.3)	63(1.8)	**37(1.8)**
Central	25(0.5)	264(2.2)	2(0.6)	31(2.4)	73(2.4)	**27(2.4)**
West	28(0.6)	260(1.2)	2(0.5)	27(1.4)	68(1.5)	**32(1.5)**
Grade 12						
Northeast	24(0.6)	293(1.2)	4(0.5)	40(1.6)	76(1.6)	**24(1.6)**
Southeast	23(0.6)	284(1.1)	2(0.3)	28(1.4)	68(1.4)	**32(1.4)**
Central	26(0.6)	294(1.1)	3(0.4)	40(1.6)	79(1.4)	**21(1.4)**
West	27(0.8)	292(1.6)	4(0.6)	38(2.2)	77(2.0)	**23(2.0)**

The standard errors of the estimated percentages and proficiencies appear in parentheses. It can be said with 95 percent certainty that for each population of interest, the value for the whole population is within plus or minus two standard errors of the estimate for the sample. In comparing two estimates, one must use the standard error of the difference (see Appendix for details). Percentages may not total 100 percent due to rounding error.

SOURCE: National Assessment of Educational Progress (NAEP), 1992 Reading Assessment.

TABLE 4 | Overall Average Reading Proficiency and Achievement Levels, Grade 4, 1992 Reading Assessment

PUBLIC SCHOOLS	Average Proficiency	Percentage of Students At or Above Advanced	Percentage of Students At or Above Proficient	Percentage of Students At or Above Basic	Percentage of Students Below Basic
NATION	216 (1.1)	4 (0.6)	24 (1.2)	57 (1.2)	43 (1.2)
Northeast	221 (4.0)	6 (2.4)	29 (4.4)	62 (3.9)	38 (3.9)
Southeast	212 (2.5)	3 (0.6)	19 (2.4)	52 (3.5)	48 (3.5)
Central	219 (1.6)	4 (0.9)	25 (2.3)	62 (2.0)	38 (2.0)
West	213 (1.7)	3 (0.5)	22 (1.6)	53 (1.9)	47 (1.9)
STATES					
Alabama	208 (1.7)	2 (0.4)	17 (1.3)	48 (2.1)	52 (2.1)
Arizona	210 (1.3)	2 (0.4)	18 (1.1)	51 (1.7)	49 (1.7)
Arkansas	212 (1.2)	3 (0.4)	20 (1.3)	53 (1.6)	47 (1.6)
California	203 (2.1)	3 (0.5)	17 (1.6)	45 (2.3)	55 (2.3)
Colorado	218 (1.2)	3 (0.4)	22 (1.4)	60 (1.6)	40 (1.6)
Connecticut	223 (1.3)	5 (0.9)	30 (1.4)	66 (1.9)	34 (1.9)
Delaware*	214 (0.7)	3 (0.4)	21 (1.3)	54 (1.3)	46 (1.3)
Dist. Columbia	189 (0.8)	1 (0.2)	8 (0.5)	28 (1.1)	72 (1.1)
Florida	209 (1.3)	2 (0.4)	18 (1.1)	49 (1.6)	51 (1.6)
Georgia	213 (1.5)	4 (0.5)	22 (1.5)	53 (1.8)	47 (1.8)
Hawaii	204 (1.7)	2 (0.3)	15 (1.4)	44 (2.0)	56 (2.0)
Idaho	221 (1.0)	3 (0.5)	24 (1.3)	63 (1.3)	37 (1.3)
Indiana	222 (1.3)	4 (0.7)	27 (1.4)	64 (1.7)	36 (1.7)
Iowa	227 (1.1)	5 (0.6)	32 (1.5)	70 (1.4)	30 (1.4)
Kentucky	214 (1.3)	2 (0.5)	19 (1.4)	55 (1.8)	45 (1.8)
Louisiana	205 (1.2)	1 (0.3)	13 (1.0)	42 (1.7)	58 (1.7)
Maine*	228 (1.1)	4 (0.7)	31 (1.7)	72 (1.4)	28 (1.4)
Maryland	212 (1.6)	3 (0.5)	21 (1.1)	53 (1.8)	47 (1.8)
Massachusetts	227 (1.0)	4 (0.6)	32 (1.4)	71 (1.4)	29 (1.4)
Michigan	217 (1.6)	3 (0.5)	23 (1.9)	59 (1.9)	41 (1.9)
Minnesota	222 (1.2)	4 (0.5)	28 (1.4)	65 (1.7)	35 (1.7)
Mississippi	200 (1.3)	1 (0.3)	12 (0.7)	38 (1.8)	62 (1.8)
Missouri	221 (1.3)	4 (0.4)	26 (1.5)	63 (1.5)	37 (1.5)
Nebraska*	222 (1.1)	4 (0.7)	27 (1.6)	65 (1.5)	35 (1.5)
New Hampshire*	229 (1.2)	6 (0.7)	34 (1.5)	73 (1.9)	27 (1.9)
New Jersey*	224 (1.5)	6 (0.9)	31 (1.7)	66 (1.9)	34 (1.9)
New Mexico	212 (1.5)	3 (0.6)	20 (1.6)	51 (1.7)	49 (1.7)
New York*	216 (1.4)	3 (0.5)	23 (1.1)	58 (1.4)	42 (1.4)
North Carolina	213 (1.2)	4 (0.5)	22 (1.2)	53 (1.4)	47 (1.4)
North Dakota	227 (1.2)	4 (0.6)	31 (1.5)	71 (1.9)	29 (1.9)
Ohio	219 (1.4)	3 (0.4)	24 (1.5)	60 (1.8)	40 (1.8)
Oklahoma	221 (1.0)	3 (0.5)	25 (1.1)	64 (1.3)	36 (1.3)
Pennsylvania	222 (1.3)	4 (0.6)	28 (1.5)	64 (1.9)	36 (1.9)
Rhode Island	218 (1.8)	3 (0.5)	24 (1.7)	59 (2.1)	41 (2.1)
South Carolina	211 (1.3)	2 (0.6)	19 (1.2)	49 (1.8)	51 (1.8)
Tennessee	213 (1.5)	3 (0.5)	20 (1.4)	53 (1.7)	47 (1.7)
Texas	214 (1.6)	3 (0.5)	20 (1.7)	53 (2.0)	47 (2.0)
Utah	222 (1.2)	3 (0.5)	26 (1.3)	64 (1.5)	36 (1.5)
Virginia	222 (1.4)	5 (0.8)	28 (1.5)	64 (1.8)	36 (1.8)
West Virginia	217 (1.3)	3 (0.5)	22 (1.3)	58 (1.5)	42 (1.5)
Wisconsin	225 (1.0)	4 (0.5)	29 (1.1)	67 (1.3)	33 (1.3)
Wyoming	224 (1.2)	4 (0.5)	28 (1.7)	68 (1.5)	32 (1.5)
TERRITORY					
Guam	183 (1.4)	1 (0.2)	6 (0.7)	25 (1.2)	75 (1.2)

*Did not satisfy one or more of the guidelines for school sample participation rates (see Appendix B for details).

The standard errors of the estimated percentages and proficiencies appear in parentheses. It can be said with 95 percent certainty that for each population of interest, the value for the whole population is within plus or minus two standard errors of the estimate for the sample. In comparing two estimates, one must use the standard error of the difference (see Appendix for details).

SOURCE: National Assessment of Educational Progress (NAEP), 1992 Reading Assessment.

Overall Reading Performance for the States

FIGURE 1 provides a method for making appropriate comparisons in overall average reading proficiency across the states participating in NAEP's 1992 reading assessment as well as the District of Columbia and Guam. The jurisdictions are listed by overall average reading proficiency. To find out how any one jurisdiction performed in comparison to the other jurisdictions, find the name of the state or entity across the top of the chart and read down that column. As can be seen, the pattern for virtually all jurisdictions but the top 14 states is one of having lower average proficiency than some states, about the same average proficiency as some states, and higher average proficiency than some states. (None of the 14 highest-performing states had lower average proficiency than any other state.)

FIGURE 2 provides a visual representation of percentile results for the participating jurisdictions. For example, 25 percent of the students in each state performed below the 25th percentile, and 75 percent performed above the 25th percentile. For the 90th percentile, 10 percent performed above that level and 90 percent below. The dark boxes at the midpoints of the distributions show the 95 percent confidence intervals around the average proficiencies. These intervals take into account the amount of sampling and measurement error associated with the estimates of average proficiency. The results across percentiles show great variation in students' achievement within each state: Differences within individual states across percentiles tended to exceed the differences in average performance across states.

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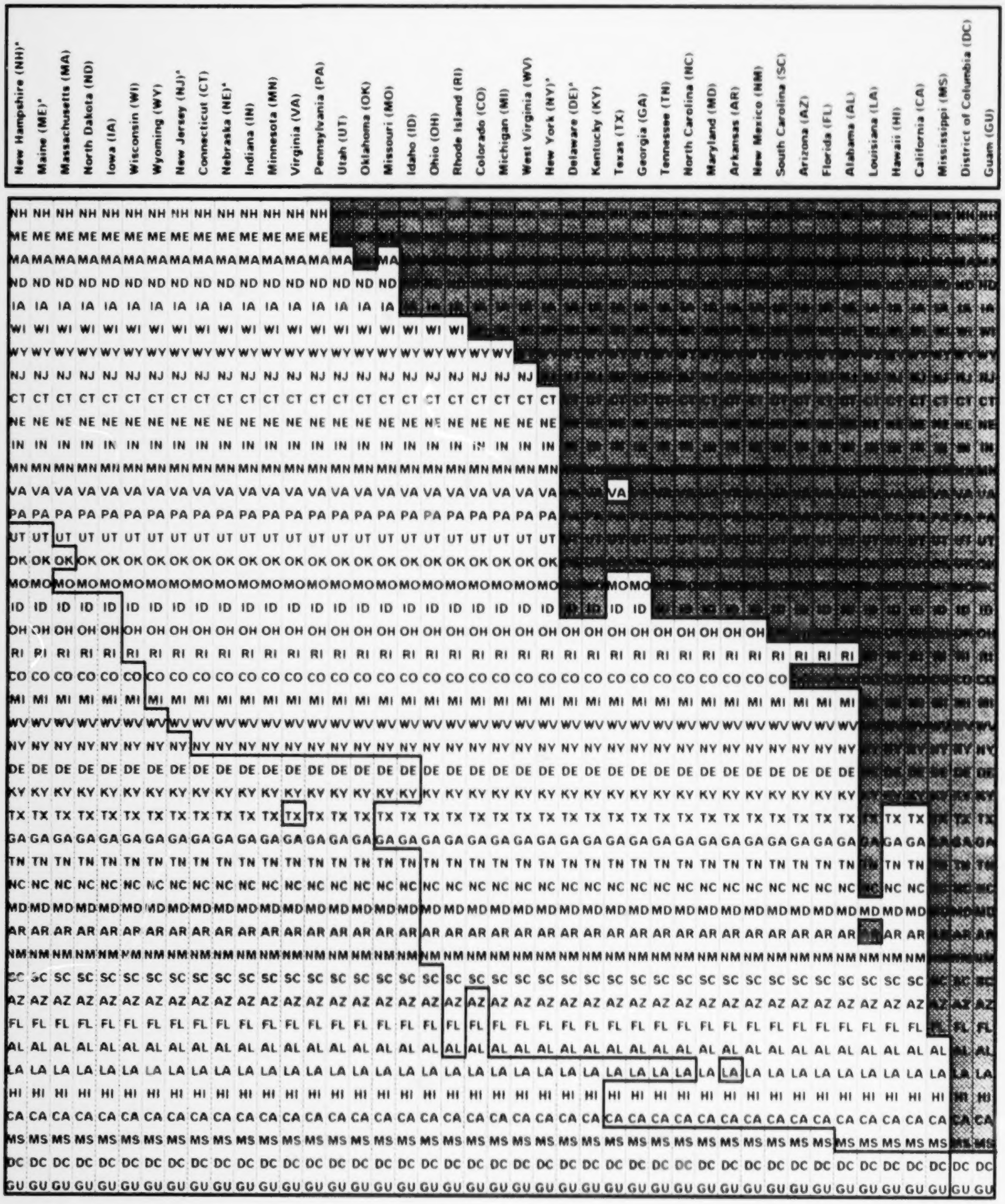
FIGURE 1

Comparisons of Overall Reading Average Proficiency 1992 Grade 4

INSTRUCTIONS: Read *down* the column directly under a state name listed in the heading at the top of the chart. Match the shading intensity surrounding a state postal abbreviation to the key below to determine whether the average reading performance of this state is higher than, the same as, or lower than the state in the column heading.


New Hampshire (NH)*
Maine (ME)*
Massachusetts (MA)
North Dakota (ND)
Iowa (IA)
Wisconsin (WI)
Wyoming (WY)
New Jersey (NJ)*
Connecticut (CT)
Nebraska (NE)*
Indiana (IN)
Minnesota (MN)
Virginia (VA)
Pennsylvania (PA)
Utah (UT)
Oklahoma (OK)
Missouri (MO)
Idaho (ID)
Ohio (OH)
Rhode Island (RI)
Colorado (CO)
Michigan (MI)
West Virginia (WV)
New York (NY)*
Delaware (DE)*
Kentucky (KY)
Texas (TX)
Georgia (GA)
Tennessee (TN)
North Carolina (NC)
Maryland (MD)
Arkansas (AR)
New Mexico (NM)
South Carolina (SC)
Arizona (AZ)
Florida (FL)
Alabama (AL)
Louisiana (LA)
Hawaii (HI)
California (CA)
Mississippi (MS)
District of Columbia (DC)
Guam (GU)
NH ME MA ND IA WI WY NJ CT NE IN MN VA PA UT OK MO ID OH RI CO MI WV NY DE KY TX GA TN NC MD AR NM SC AZ FL AL LA HI CA MS DC GU

▨ State has statistically significantly higher average proficiency than the state listed at the top of the chart.

☐ No statistically significant difference from the state listed at the top of the chart.

☐ State has statistically significantly lower average proficiency than the state listed at the top of the chart.

The between state comparisons take into account sampling and measurement error and that each state is being compared with every other state. Significance is determined by an application of the Bonferroni procedure.

*Did not satisfy one or more of the guidelines for sample participation rates (see Appendix for details).

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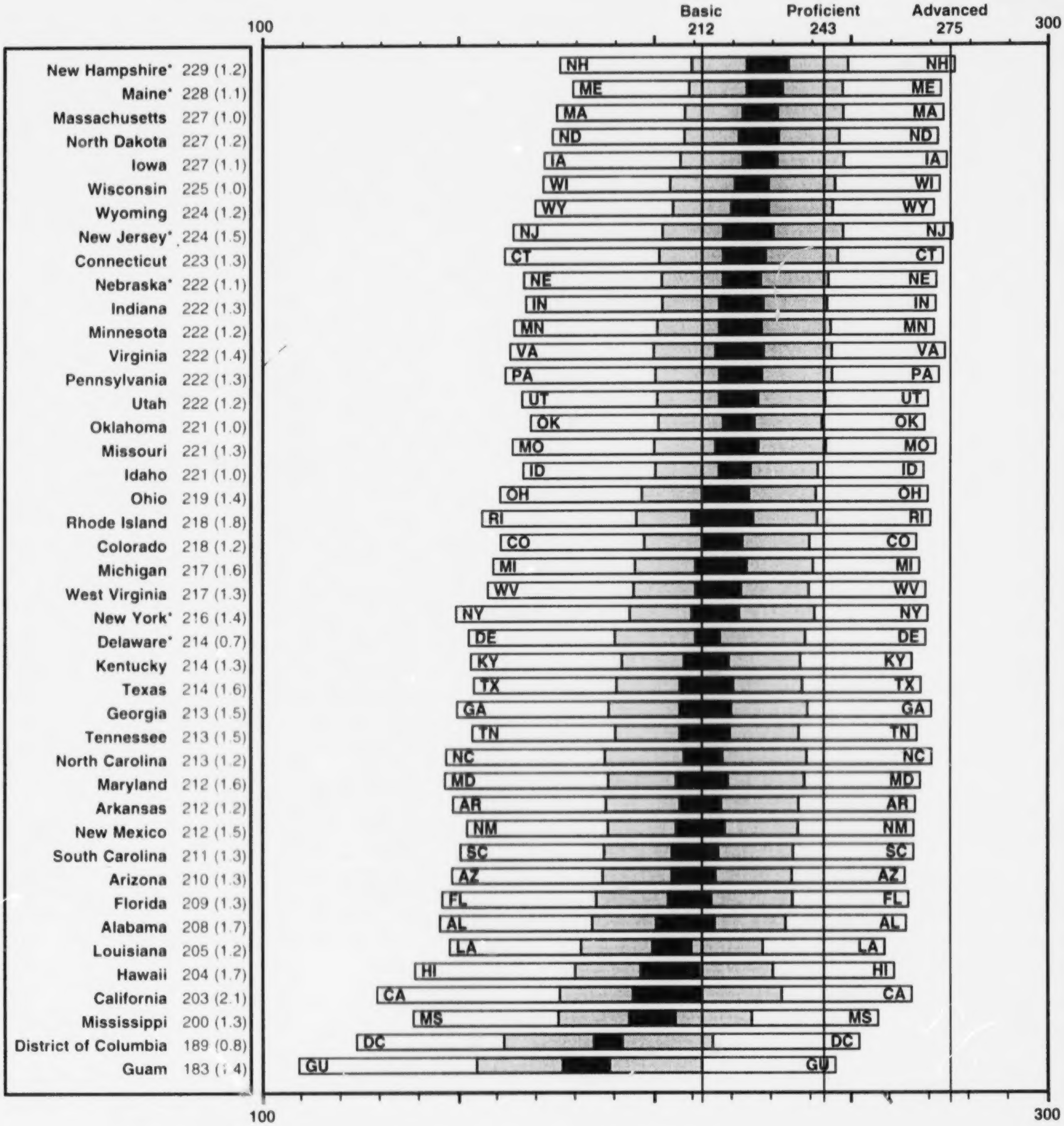
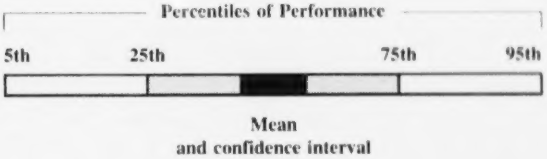
FIGURE 2

Distribution of Overall Reading Proficiency Organized by Average Proficiency
1992 Grade 4





The center ***darkest*** box indicates a simultaneous confidence interval around the average reading proficiency for the state based on the Bonferroni procedure for multiple comparisons. The ***darker shaded*** boxes indicate the ranges between the 25th and 75th percentiles of the reading proficiency distribution, and the ***lighter shaded*** boxes the ranges between the 5th to 25th percentiles and the 75th to 95th percentiles of the distribution.

*Did not satisfy one or more of the guidelines for sample participation rates (see Appendix for details).

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Performance for Student Subpopulations

TABLE 5 presents national average proficiency for subpopulations of students as defined by race/ethnicity, gender, type of community, and level of parents' education. TABLES 6 through 9 present average proficiency by race/ethnicity, gender, type of community, and level of parents' education for the jurisdictions participating in the state assessments at grade 4. (Please note that for the nation and participating jurisdictions approximately one-third of fourth graders did not know their parents' level of education.)

A Graphic Illustrating Students' Average Performance Across States

FIGURE 3 is designed to highlight the gradations of reading proficiency within subpopulations across the jurisdictions that participated in the 1992 reading assessment. The chart shows those states in the top "quintile," or top 20 percent of performance, looking in particular at key subpopulations. This information can be used to summarize performance across states for the race/ethnicity, gender, community type, and parents' education data presented in TABLES 6 through 9.

For each subpopulation, the average reading proficiency of the states has been ranked and presented by performance bands established according to quintiles. States having average performance in the top 20 percent across participating jurisdictions are indicated by the darkest boxes, with states in successively lower quintiles shown by progressively lighter shadings.

For example, the average reading proficiency of White students in West Virginia fell in the lowest quintile across states. In comparison, the average proficiency for Black students fell in the highest quintile. Therefore, across states, the performance of the White students in West Virginia was among the lowest and the performance of Black students was among the highest. (Black students in West Virginia, however, did not have higher average reading proficiency than White students.)

TABLE 5 Average Reading Proficiency by Race/Ethnicity, Gender, Type of Community, and Parents' Education Level, Grades 4, 8, and 12, 1992 Reading Assessment

	Grade 4		Grade 8		Grade 12	
	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency
Race/Ethnicity						
White	71 (0.2)	226 (1.2)	70 (0.2)	268 (1.2)	72 (0.4)	297 (0.6)
Black	16 (0.1)	193 (1.7)	16 (0.2)	238 (1.6)	15 (0.4)	272 (1.5)
Hispanic	9 (0.1)	202 (2.2)	10 (0.2)	242 (1.4)	9 (0.4)	277 (2.4)
Asian/Pacific Islander	2 (0.3)	216 (3.3)	3 (0.2)	270 (3.1)	4 (0.2)	291 (3.2)
American Indian	2 (0.2)	208 (4.7)	1 (0.2)	251 (3.7)	0 (0.1)	272 (5.3)
Gender						
Male	51 (0.6)	214 (1.2)	51 (0.7)	254 (1.1)	49 (0.6)	286 (0.7)
Female	49 (0.6)	222 (1.0)	49 (0.7)	267 (1.0)	51 (0.6)	296 (0.7)
Type of Community						
Advantaged Urban	10 (1.9)	240 (3.1)	10 (1.9)	280 (2.1)	12 (2.2)	303 (2.1)
Disadvantaged Urban	9 (1.2)	188 (2.7)	10 (1.5)	237 (1.9)	10 (1.5)	275 (2.6)
Extreme Rural	12 (2.2)	220 (3.0)	7 (2.2)!	263 (3.8)!	10 (1.5)	286 (2.0)
Other	69 (2.9)	218 (1.1)	72 (2.9)	260 (1.1)	68 (3.0)	292 (0.8)
Parents' Education						
Graduated College	39 (1.1)	227 (1.4)	41 (1.2)	271 (1.0)	41 (0.9)	300 (0.8)
Some Education After High School	9 (0.5)	224 (2.2)	19 (0.5)	266 (1.1)	27 (0.6)	293 (0.8)
Graduated High School	12 (0.6)	213 (1.7)	24 (0.8)	251 (1.4)	22 (0.5)	281 (0.8)
Did Not Finish High School	4 (0.4)	199 (2.7)	8 (0.5)	243 (1.5)	8 (0.4)	274 (1.5)
I Don't Know	36 (1.0)	211 (1.2)	8 (0.4)	238 (2.0)	2 (0.2)	257 (2.8)

The standard errors of the estimated percentages and proficiencies appear in parentheses. It can be said with 95 percent confidence for each population of interest, the value for the whole population is within plus or minus two standard error of the estimated for the sample. In comparing two estimates, one must use the standard error of the difference (see Appendix for details). When the proportion of students is either 0 percent or 100 percent, the standard error is inestimable. However, percentages 99.5 percent and greater were rounded to 100 percent and percentages 0.5 percent or less were rounded to 0 percent. Percentages may not total 100 percent due to rounding error or because some students categorized themselves as "other" when asked to describe their race/ethnicity. !Interpret with caution -- the nature of the sample does not allow determination of the variability of the estimated statistic.

SOURCE: National Assessment of Educational Progress (NAEP), 1992 Reading Assessment.

TABLE 6 | Average Reading Proficiency by Race/Ethnicity, Grade 4, 1992 Reading Assessment

PUBLIC SCHOOLS	White		Black		Hispanic		Asian/Pacific Islander		American Indian	
	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency
NATION	69 (0.5)	224 (1.4)	17 (0.4)	192 (1.7)	10 (0.3)	200 (2.2)	2 (0.3)	215 (3.7)	2 (0.3)	206 (5.0)
Northeast	68 (3.4)	230 (4.0)	20 (3.2)	198 (3.9)	9 (1.3)	201 (5.0)	2 (0.5)	*** (***)	1 (0.4)	*** (***)
Southeast	63 (2.7)	221 (3.4)	29 (2.6)	195 (2.4)	5 (1.1)	195 (5.1)!	1 (0.3)	*** (***)	1 (0.4)	*** (***)
Central	79 (1.5)	225 (1.9)	11 (1.3)	187 (3.4)	7 (1.0)	210 (4.8)	1 (0.2)	*** (***)	2 (0.4)	*** (***)
West	65 (2.1)	222 (1.8)	11 (1.6)	185 (4.5)	16 (1.9)	197 (2.7)	5 (1.4)	215 (4.2)!	2 (0.6)	*** (***)
STATES										
Alabama	61 (2.4)	219 (1.6)	31 (2.2)	188 (2.3)	5 (0.7)	191 (3.8)	1 (0.2)	*** (***)	2 (0.7)	*** (***)
Arizona	56 (1.9)	222 (1.2)	4 (0.6)	201 (4.4)	29 (1.6)	198 (2.1)	1 (0.3)	*** (***)	10 (1.8)	185 (3.2)
Arkansas	70 (1.8)	221 (1.1)	21 (1.5)	191 (1.8)	7 (0.7)	188 (3.8)	1 (0.2)	*** (***)	2 (0.3)	207 (4.9)
California	46 (1.9)	219 (2.0)	7 (0.8)	185 (3.3)	35 (1.6)	183 (2.8)	11 (1.1)	213 (3.2)	2 (0.3)	*** (***)
Colorado	70 (1.3)	223 (1.1)	4 (0.9)	203 (3.4)!	21 (0.9)	203 (2.0)	2 (0.3)	225 (6.0)	2 (0.3)	204 (4.8)
Connecticut	73 (1.7)	232 (1.0)	11 (1.3)	197 (3.2)	13 (1.1)	194 (3.5)	2 (0.3)	*** (***)	1 (0.3)	*** (***)
Delaware*	64 (1.1)	224 (0.8)	25 (1.0)	196 (1.7)	8 (0.5)	188 (3.3)	2 (0.3)	*** (***)	2 (0.4)	*** (***)
Dist. Columbia	5 (0.3)	241 (3.2)	83 (0.6)	186 (0.8)	9 (0.5)	178 (2.9)	1 (0.2)	*** (***)	2 (0.3)	*** (***)
Florida	57 (1.9)	220 (1.1)	21 (2.0)	186 (2.8)	18 (1.4)	202 (2.7)	2 (0.4)	*** (***)	2 (0.3)	*** (***)
Georgia	57 (1.9)	225 (1.4)	34 (1.8)	196 (2.3)	5 (0.5)	192 (5.0)	2 (0.3)	*** (***)	1 (0.2)	*** (***)
Hawaii	20 (1.5)	216 (2.7)	5 (0.6)	192 (4.8)	11 (0.9)	194 (2.9)	61 (2.3)	204 (1.9)	2 (0.3)	*** (***)
Idaho	84 (0.9)	224 (0.9)	1 (0.1)	*** (***)	11 (0.8)	202 (2.5)	1 (0.2)	*** (***)	3 (0.4)	206 (2.7)
Indiana	82 (1.4)	226 (1.2)	11 (1.4)	201 (2.4)	5 (0.6)	212 (3.7)	1 (0.1)	*** (***)	1 (0.3)	*** (***)
Iowa	88 (0.9)	228 (1.0)	3 (0.6)	211 (3.1)	6 (0.5)	212 (3.1)	2 (0.2)	*** (***)	1 (0.3)	*** (***)
Kentucky	86 (1.1)	216 (1.3)	9 (1.0)	197 (3.4)	3 (0.4)	196 (5.2)	0 (0.2)	*** (***)	1 (0.2)	*** (***)
Louisiana	51 (1.9)	217 (1.2)	41 (1.9)	191 (1.5)	5 (0.5)	188 (4.5)	1 (0.7)	*** (***)	1 (0.3)	*** (***)
Maine*	92 (0.6)	229 (1.1)	0 (0.1)	*** (***)	4 (0.7)	210 (3.2)	1 (0.2)	*** (***)	2 (0.3)	*** (***)
Maryland	60 (1.7)	222 (1.6)	29 (1.3)	193 (2.6)	6 (0.6)	198 (3.1)	3 (0.5)	220 (4.2)	1 (0.3)	*** (***)
Massachusetts	81 (1.2)	232 (0.9)	7 (0.6)	206 (2.8)	7 (0.6)	202 (2.2)	3 (0.7)	219 (6.5)!	1 (0.2)	*** (***)
Michigan	74 (1.6)	224 (1.5)	13 (1.6)	189 (3.1)	8 (0.8)	199 (2.9)	2 (0.3)	*** (***)	2 (0.3)	*** (***)
Minnesota	87 (1.2)	225 (1.2)	3 (0.5)	191 (6.1)	6 (0.6)	203 (3.6)	2 (0.5)	*** (***)	2 (0.2)	*** (***)
Mississippi	41 (2.0)	218 (1.5)	52 (2.2)	187 (1.6)	5 (1.0)	186 (3.8)	0 (0.1)	*** (***)	1 (0.3)	*** (***)
Missouri	77 (1.7)	227 (1.1)	14 (1.7)	197 (3.2)	5 (0.7)	203 (3.2)	1 (0.2)	*** (***)	2 (0.3)	*** (***)
Nebraska*	83 (1.2)	226 (1.2)	6 (0.6)	198 (3.2)	8 (1.1)	206 (3.0)	1 (0.2)	*** (***)	2 (0.3)	*** (***)
New Hampshire*	90 (1.0)	230 (1.2)	1 (0.2)	*** (***)	5 (0.6)	216 (3.2)	1 (0.2)	*** (***)	2 (0.3)	*** (***)
New Jersey*	67 (2.2)	234 (1.4)	14 (1.6)	201 (2.7)	13 (1.4)	199 (2.8)	5 (0.8)	235 (2.9)	1 (0.2)	*** (***)
New Mexico	45 (2.0)	224 (1.9)	3 (0.4)	202 (5.7)	46 (1.7)	201 (1.6)	1 (0.3)	*** (***)	5 (1.2)	201 (3.9)!
New York*	61 (2.0)	228 (1.2)	14 (1.8)	203 (2.8)	20 (1.8)	188 (4.1)	4 (1.0)	226 (4.3)!	2 (0.3)	*** (***)
North Carolina	63 (2.0)	222 (1.3)	28 (1.6)	195 (2.2)	5 (0.6)	193 (3.5)	1 (0.2)	*** (***)	3 (1.2)	204 (6.3)!
North Dakota	93 (1.1)	228 (1.1)	0 (0.1)	*** (***)	3 (0.5)	222 (4.9)	0 (0.2)	*** (***)	3 (0.8)	212 (4.8)!
Ohio	81 (1.5)	222 (1.3)	12 (1.3)	199 (2.0)	5 (0.6)	203 (4.6)	1 (0.2)	*** (***)	1 (0.2)	*** (***)
Oklahoma	72 (1.3)	225 (1.1)	8 (0.9)	202 (2.1)	8 (0.8)	209 (2.2)	1 (0.2)	*** (***)	10 (0.8)	218 (2.4)
Pennsylvania	79 (1.7)	229 (1.2)	11 (1.6)	191 (2.5)	8 (1.0)	201 (3.9)	1 (0.3)	*** (***)	1 (0.2)	*** (***)
Rhode Island	76 (2.2)	225 (1.3)	6 (1.0)	188 (3.8)	12 (1.3)	192 (4.4)	4 (0.6)	197 (4.6)	2 (0.3)	*** (***)
South Carolina	55 (1.9)	223 (1.5)	38 (2.0)	195 (1.7)	5 (0.7)	196 (2.5)	1 (0.2)	*** (***)	2 (0.3)	*** (***)
Tennessee	71 (1.8)	220 (1.4)	21 (1.6)	194 (2.3)	5 (0.7)	196 (4.5)	1 (0.3)	*** (***)	2 (0.3)	*** (***)
Texas	49 (2.1)	225 (2.1)	14 (1.7)	201 (2.6)	34 (2.3)	201 (1.8)	2 (0.3)	*** (***)	1 (0.2)	*** (***)
Utah	86 (1.1)	224 (1.0)	1 (0.1)	*** (***)	10 (0.9)	205 (2.4)	2 (0.3)	*** (***)	2 (0.5)	*** (***)
Virginia	67 (1.6)	230 (1.5)	24 (1.3)	204 (2.1)	5 (0.5)	203 (4.4)	2 (0.5)	228 (5.6)	2 (0.3)	*** (***)
West Virginia	91 (0.7)	218 (1.2)	2 (0.4)	204 (6.6)	4 (0.5)	197 (7.0)	1 (0.2)	*** (***)	2 (0.3)	*** (***)
Wisconsin	83 (1.4)	229 (1.0)	6 (0.8)	201 (2.5)	8 (0.9)	211 (3.4)	1 (0.3)	*** (***)	2 (0.8)	207 (5.1)!
Wyoming	83 (1.3)	227 (1.1)	1 (0.1)	*** (***)	12 (0.9)	210 (2.6)	1 (0.2)	*** (***)	4 (0.9)	212 (4.7)!
TERRITORY										
Guam	12 (0.8)	196 (3.1)	4 (0.4)	166 (5.6)	18 (0.8)	165 (3.0)	64 (0.9)	186 (1.4)	1 (0.3)	*** (***)

*Did not satisfy one or more of the guidelines for school sample participation rates (see Appendix B for details).

The standard errors of the estimated percentages and proficiencies appear in parentheses. It can be said with 95 percent certainty that for each population of interest, the value for the whole population is within plus or minus two standard errors of the estimate for the sample. In comparing two estimates, one must use the standard error of the difference (see Appendix for details). Percentages may not total 100 percent due to rounding error or because some students categorized themselves as "others." When the proportion of students is either 0 percent or 100 percent, the standard error is inestimable. However, percentages 99.5 percent and greater were rounded to 100 percent and percentages 0.5 percent and less were rounded to 0 percent. ***Sample size insufficient to permit reliable estimate. There were fewer than 62 students. !Interpret with caution - the nature of the sample does not allow accurate determination of the variability of this estimated statistic.

SOURCE: National Assessment of Educational Progress (NAEP), 1992 Reading Assessment.

TABLE 7 | Average Reading Proficiency by Gender, Grade 4, 1992 Reading Assessment

PUBLIC SCHOOLS	Male		Female	
	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency
NATION	51 (0.7)	212 (1.4)	49 (0.7)	220 (1.1)
Northeast	50 (2.0)	218 (4.7)	50 (2.0)	224 (3.6)
Southeast	49 (1.3)	205 (3.0)	51 (1.3)	217 (2.6)
Central	54 (1.1)	217 (1.6)	46 (1.1)	221 (2.4)
West	52 (1.4)	208 (2.6)	48 (1.4)	218 (1.4)
STATES				
Alabama	52 (1.1)	205 (1.7)	48 (1.1)	212 (2.0)
Arizona	48 (1.0)	206 (1.5)	52 (1.0)	214 (1.4)
Arkansas	50 (1.0)	209 (1.6)	50 (1.0)	215 (1.4)
California	49 (1.1)	198 (2.4)	51 (1.1)	208 (2.2)
Colorado	51 (1.0)	215 (1.3)	49 (1.0)	221 (1.5)
Connecticut	51 (1.3)	220 (1.5)	49 (1.3)	226 (1.6)
Delaware*	50 (1.1)	210 (1.2)	50 (1.1)	218 (1.0)
Dist. Columbia	50 (1.0)	186 (1.3)	50 (1.0)	191 (1.0)
Florida	51 (0.9)	206 (1.5)	49 (0.9)	212 (1.4)
Georgia	51 (1.1)	211 (1.8)	49 (1.1)	216 (1.7)
Hawaii	51 (0.9)	199 (2.1)	49 (0.9)	210 (1.8)
Idaho	50 (1.1)	218 (1.1)	50 (1.1)	223 (1.2)
Indiana	50 (1.2)	220 (1.5)	50 (1.2)	225 (1.5)
Iowa	50 (0.8)	223 (1.4)	50 (0.8)	230 (1.1)
Kentucky	53 (1.0)	210 (1.6)	47 (1.0)	217 (1.4)
Louisiana	50 (0.9)	201 (1.5)	50 (0.9)	208 (1.3)
Maine*	48 (1.4)	226 (1.2)	52 (1.4)	230 (1.5)
Maryland	49 (1.0)	208 (1.9)	51 (1.0)	216 (1.8)
Massachusetts	50 (0.9)	226 (1.2)	50 (0.9)	229 (1.1)
Michigan	50 (1.1)	215 (1.9)	50 (1.1)	219 (1.6)
Minnesota	51 (1.3)	219 (1.5)	49 (1.3)	226 (1.4)
Mississippi	52 (1.0)	197 (1.8)	48 (1.0)	203 (1.3)
Missouri	50 (0.9)	219 (1.4)	50 (0.9)	224 (1.5)
Nebraska*	52 (1.3)	219 (1.4)	48 (1.3)	226 (1.3)
New Hampshire*	51 (1.0)	226 (1.5)	49 (1.0)	233 (1.2)
New Jersey*	50 (1.1)	222 (1.7)	50 (1.1)	227 (1.8)
New Mexico	50 (0.8)	209 (1.6)	50 (0.8)	214 (1.8)
New York*	52 (1.1)	213 (1.9)	48 (1.1)	219 (1.7)
North Carolina	51 (0.9)	210 (1.4)	49 (0.9)	216 (1.4)
North Dakota	51 (1.2)	225 (1.4)	49 (1.2)	228 (1.4)
Ohio	50 (1.0)	215 (1.7)	50 (1.0)	222 (1.5)
Oklahoma	49 (1.0)	219 (1.2)	51 (1.0)	224 (1.1)
Pennsylvania	48 (1.2)	219 (1.6)	52 (1.2)	225 (1.5)
Rhode Island	51 (1.3)	216 (2.1)	49 (1.3)	220 (2.0)
South Carolina	48 (0.9)	207 (1.5)	52 (0.9)	214 (1.6)
Tennessee	50 (1.1)	210 (1.6)	50 (1.1)	216 (1.6)
Texas	52 (1.2)	210 (1.7)	48 (1.2)	217 (1.9)
Utah	48 (1.0)	218 (1.5)	52 (1.0)	225 (1.2)
Virginia	51 (0.9)	218 (1.8)	49 (0.9)	226 (1.4)
West Virginia	51 (0.8)	212 (1.4)	49 (0.8)	221 (1.6)
Wisconsin	50 (0.9)	222 (1.2)	50 (0.9)	228 (1.2)
Wyoming	51 (0.9)	221 (1.6)	49 (0.9)	227 (1.0)
TERRITORY				
Guam	52 (1.2)	175 (1.9)	48 (1.2)	190 (1.5)

*Did not satisfy one or more of the guidelines for school sample participation rates (see Appendix B for details).

The standard errors of the estimated percentages and proficiencies appear in parentheses. It can be said with 95 percent certainty that for each population of interest, the value for the whole population is within plus or minus two standard errors of the estimate for the sample. In comparing two estimates, one must use the standard error of the difference (see Appendix for details).

SOURCE: National Assessment of Educational Progress (NAEP), 1992 Reading Assessment.

TABLE 8 | Average Reading Proficiency by Type of Community, Grade 4, 1992 Reading Assessment

PUBLIC SCHOOLS	Advantaged Urban		Disadvantaged Urban		Extreme Rural		Other	
	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency
NATION	7 (2.1)	239 (4.8)!	10 (1.3)	188 (2.8)	13 (2.4)	219 (3.0)	70 (3.2)	217 (1.2)
Northeast	14 (7.2)	248 (6.6)!	14 (4.1)	199 (4.7)!	2 (2.5)	*** (***)	69 (8.1)	220 (3.5)
Southeast	5 (3.3)	240 (3.6)!	14 (3.4)	187 (3.1)!	19 (6.9)	213 (5.2)!	62 (7.5)	214 (3.1)
Central	3 (2.3)	*** (***)	9 (2.2)	183 (4.6)!	15 (3.4)	228 (4.1)!	73 (4.8)	221 (2.0)
West	7 (3.7)	226 (4.2)!	5 (1.4)	170(10.8)!	14 (4.5)	216 (4.0)!	74 (5.4)	214 (2.1)
STATES								
Alabama	11 (3.1)	229 (3.1)!	13 (3.2)	189 (4.9)!	16 (4.1)	212 (3.0)!	61 (5.7)	209 (2.7)
Arizona	12 (3.7)	224 (3.2)!	11 (3.2)	205 (4.4)!	8 (3.1)	202 (8.9)!	70 (5.2)	209 (2.2)
Arkansas	1 ([illegible].2)	*** (***)	6 (1.5)	198 (5.7)!	25 (4.0)	212 (2.9)	68 (4.2)	212 (1.8)
California	13 (2.8)	232 (3.1)!	22 (3.7)	179 (4.7)	0 (0.1)	*** (***)	65 (4.7)	206 (2.6)
Colorado	18 (3.2)	223 (1.8)	13 (2.7)	202 (2.2)!	12 (2.7)	219 (3.6)!	57 (5.0)	220 (1.8)
Connecticut	19 (4.4)	234 (3.0)!	16 (3.1)	191 (4.1)!	0 (0.0)	*** (***)	65 (5.1)	229 (1.3)
Delaware*	10 (0.1)	213 (3.5)	8 (0.2)	209 (3.6)	23 (0.2)	215 (1.0)	58 (0.2)	215 (1.0)
Dist. Columbia	20 (0.2)	216 (1.8)	60 (0.2)	181 (1.1)	0 (0.0)	*** (***)	19 (0.2)	191 (2.0)
Florida	16 (3.1)	226 (2.7)!	21 (3.6)	189 (3.6)	4 (1.6)	215 (4.6)!	59 (4.5)	212 (1.3)
Georgia	11 (3.5)	233 (4.2)!	12 (3.5)	190 (3.9)!	12 (3.8)	214 (3.4)!	65 (6.0)	214 (1.9)
Hawaii	12 (3.6)	223 (3.1)!	9 (1.8)	180 (6.4)	5 (2.1)	202 (3.9)!	74 (4.4)	206 (2.2)
Idaho	10 (2.7)	232 (2.7)!	1 (0.9)	*** (***)	33 (4.9)	218 (1.9)	56 (5.4)	221 (1.4)
Indiana	8 (2.7)	240 (3.2)!	10 (2.9)	205 (3.5)!	15 (3.3)	225 (3.1)!	67 (5.0)	223 (1.5)
Iowa	7 (3.0)	241 (3.2)!	6 (2.6)	217 (4.9)!	39 (3.5)	227 (1.7)	48 (4.6)	228 (1.5)
Kentucky	6 (2.7)	238 (4.1)!	11 (2.8)	201 (3.9)!	23 (3.9)	214 (2.5)	61 (4.4)	213 (1.6)
Louisiana	5 (2.2)	227 (6.1)!	18 (2.6)	187 (3.7)	10 (2.4)	208 (4.5)!	67 (3.8)	207 (1.4)
Maine*	2 (1.5)	*** (***)	2 (1.1)	*** (***)	23 (5.3)	227 (2.7)!	73 (5.3)	229 (1.4)
Maryland	20 (3.9)	224 (4.3)!	15 (3.8)	185 (7.6)!	5 (2.0)	211 (4.0)!	60 (5.1)	214 (2.0)
Massachusetts	17 (3.4)	237 (2.2)!	14 (2.6)	202 (2.6)	2 (1.0)	*** (***)	67 (4.3)	231 (1.3)
Michigan	10 (3.0)	240 (4.3)!	14 (3.7)	193 (4.5)!	11 (3.6)	225 (3.2)!	65 (5.2)	221 (1.6)
Minnesota	13 (3.8)	228 (3.0)!	3 (2.0)	*** (***)	27 (4.0)	219 (2.3)	58 (5.3)	222 (2.0)
Mississippi	1 (1.2)	*** (***)	5 (1.8)	189 (5.2)!	11 (2.3)	206 (4.7)!	82 (3.2)	199 (1.6)
Missouri	9 (3.0)	238 (4.8)!	10 (2.9)	191 (5.4)!	27 (4.0)	225 (1.8)	54 (5.3)	223 (1.6)
Nebraska*	8 (2.6)	236 (3.2)!	6 (1.6)	206 (2.4)!	27 (3.8)	226 (1.9)	59 (4.7)	220 (1.7)
New Hampshire*	8 (3.5)	235 (3.2)!	1 (1.2)	*** (***)	5 (2.2)	231 (3.1)!	85 (4.1)	230 (1.6)
New Jersey*	30 (4.3)	238 (2.4)	17 (3.2)	195 (3.1)!	0 (0.0)	*** (***)	53 (4.9)	227 (2.2)
New Mexico	6 (3.0)	234 (4.3)!	9 (3.0)	203 (5.3)!	3 (1.9)	203 (7.1)!	81 (4.6)	212 (1.9)
New York*	15 (3.4)	231 (2.7)!	23 (3.7)	193 (4.3)	3 (1.6)	222 (3.5)!	60 (4.6)	222 (3.0)
North Carolina	5 (1.7)	232 (4.9)!	4 (2.0)	204 (3.2)!	21 (4.2)	210 (2.5)!	70 (4.9)	212 (1.6)
North Dakota	10 (3.2)	234 (3.5)!	2 (1.6)	*** (***)	40 (3.8)	226 (2.3)	48 (4.6)	226 (1.5)
Ohio	10 (2.7)	236 (3.6)!	17 (2.6)	198 (3.1)	17 (3.9)	220 (3.0)!	56 (5.1)	222 (2.1)
Oklahoma	9 (3.1)	231 (3.1)!	11 (3.0)	213 (4.9)!	20 (3.7)	223 (2.6)	60 (4.4)	223 (1.5)
Pennsylvania	14 (4.5)	232 (4.0)!	17 (3.2)	195 (4.7)	15 (4.1)	229 (2.3)!	54 (5.6)	226 (1.5)
Rhode Island	12 (4.0)	236 (3.7)!	24 (4.8)	191 (4.6)!	0 (0.0)	*** (***)	63 (5.6)	224 (1.9)
South Carolina	7 (2.5)	230 (5.9)!	6 (1.5)	192 (3.5)!	13 (3.0)	201 (3.4)!	74 (4.0)	212 (1.6)
Tennessee	6 (2.8)	235 (4.3)!	13 (3.5)	192 (4.5)!	10 (2.7)	210 (3.2)!	71 (4.6)	215 (1.6)
Texas	10 (2.9)	245 (3.0)!	21 (5.1)	205 (4.2)!	11 (3.3)	215 (8.6)!	57 (5.7)	212 (2.0)
Utah	19 (3.7)	230 (2.7)	4 (1.8)	200(10.6)!	7 (2.7)	220 (3.2)!	70 (4.4)	221 (1.2)
Virginia	12 (3.1)	243 (3.9)!	14 (3.1)	206 (3.5)!	14 (3.0)	220 (3.4)!	59 (4.8)	220 (2.3)
West Virginia	1 (1.2)	*** (***)	8 (2.4)	212 (5.1)!	16 (3.7)	218 (2.4)!	75 (4.7)	217 (1.7)
Wisconsin	9 (2.7)	236 (3.3)!	6 (2.1)	208 (6.3)!	26 (5.2)	226 (2.4)	60 (5.4)	226 (1.4)
Wyoming	6 (2.0)	235 (4.4)!	4 (1.7)	209 (3.9)!	22 (3.3)	229 (1.6)	68 (4.2)	223 (1.6)
TERRITORY								
Guam	0 (0.0)	*** (***)	0 (0.0)	*** (***)	23 (0.2)	179 (2.2)	77 (0.2)	187 (1.8)

*Did not satisfy one or more of the guidelines for school sample participation rates (see Appendix B for details).

The standard errors of the estimated percentages and proficiencies appear in parentheses. It can be said with 95 percent certainty that for each population of interest, the value for the whole population is within plus or minus two standard errors of the estimate for the sample. In comparing two estimates, one must use the standard error of the difference (see Appendix for details). Percentages may not total 100 percent due to rounding error. When the proportion of students is either 0 percent or 100 percent, the standard error is inestimable. However, percentages 99.5 percent and greater were rounded to 100 percent and percentages 0.5 percent and less were rounded to 0 percent. ***Sample size insufficient to permit reliable estimate. There were fewer than 62 students. !Interpret with caution - the nature of the sample does not allow accurate determination of the variability of this estimated statistic.

SOURCE: National Assessment of Educational Progress (NAEP), 1992 Reading Assessment.

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TABLE 9 | Average Reading Proficiency by Parents' Highest Level of Education, Grade 4, 1992 Reading Assessment

PUBLIC SCHOOLS	Graduated College		Some Education After High School		Graduated High School		Did Not Finish High School		I Don't Know	
	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency
NATION	37 (1.1)	224 (1.6)	9 (0.6)	223 (2.4)	13 (0.6)	212 (1.8)	4 (0.4)	198 (2.8)	37 (1.1)	210 (1.3)
Northeast	40 (3.3)	233 (5.3)	7 (0.8)	223 (9.4)	12 (1.8)	213 (3.5)	3 (0.5)	*** (***)	37 (2.8)	213 (3.7)
Southeast	36 (2.2)	220 (2.9)	8 (0.9)	217 (4.8)	16 (1.2)	208 (4.4)	5 (0.7)	198 (3.7)	35 (2.0)	206 (2.6)
Central	38 (2.1)	225 (2.7)	13 (1.5)	225 (4.1)	13 (1.0)	215 (3.8)	3 (0.7)	*** (***)	34 (2.1)	214 (2.2)
West	35 (1.9)	221 (2.8)	7 (1.0)	224 (3.7)	10 (1.1)	211 (4.2)	6 (1.0)	196 (5.6)	41 (1.8)	208 (1.6)
STATES										
Alabama	36 (1.4)	216 (2.2)	8 (0.7)	218 (3.0)	20 (1.0)	208 (2.4)	9 (0.7)	198 (2.7)	27 (1.2)	200 (2.2)
Arizona	34 (1.4)	219 (1.5)	8 (0.6)	217 (2.8)	9 (0.6)	205 (2.5)	5 (0.4)	196 (3.6)	43 (1.5)	205 (1.7)
Arkansas	32 (1.3)	218 (2.0)	10 (0.7)	224 (2.1)	20 (0.9)	212 (1.9)	9 (0.6)	203 (2.7)	30 (1.0)	204 (1.6)
California	37 (1.5)	217 (2.6)	7 (0.6)	207 (4.2)	8 (0.7)	199 (4.3)	5 (0.5)	178 (4.3)	43 (1.2)	194 (2.5)
Colorado	40 (1.1)	226 (1.3)	11 (0.6)	225 (2.3)	12 (0.7)	211 (2.3)	4 (0.3)	203 (3.3)	34 (1.2)	210 (1.6)
Connecticut	43 (1.2)	234 (1.5)	9 (0.7)	231 (2.9)	11 (0.6)	214 (2.7)	3 (0.3)	202 (3.6)	34 (1.3)	211 (1.7)
Delaware*	38 (0.7)	221 (1.5)	7 (0.6)	222 (2.3)	14 (0.7)	206 (2.2)	4 (0.4)	198 (4.6)	37 (0.8)	210 (1.7)
Dist. Columbia	42 (0.9)	195 (1.5)	7 (0.6)	197 (3.2)	15 (0.7)	188 (2.1)	5 (0.4)	179 (3.5)	31 (0.8)	180 (1.7)
Florida	36 (1.3)	214 (1.5)	9 (0.6)	217 (2.8)	13 (0.7)	207 (2.7)	5 (0.5)	200 (3.5)	36 (1.4)	205 (1.6)
Georgia	38 (1.3)	222 (2.3)	8 (0.5)	220 (3.2)	17 (0.8)	207 (2.2)	6 (0.5)	201 (3.3)	31 (1.2)	207 (1.4)
Hawaii	38 (1.3)	210 (2.0)	7 (0.5)	209 (3.8)	13 (0.8)	196 (2.6)	3 (0.3)	199 (4.5)	38 (1.2)	201 (2.0)
Idaho	38 (1.1)	229 (1.2)	9 (0.7)	229 (2.0)	11 (0.6)	215 (2.4)	4 (0.5)	206 (4.4)	38 (1.0)	213 (1.2)
Indiana	35 (1.4)	228 (1.7)	10 (0.7)	231 (2.5)	16 (1.0)	219 (2.0)	6 (0.6)	212 (3.8)	33 (1.4)	217 (1.6)
Iowa	41 (1.5)	235 (1.3)	10 (0.5)	232 (1.8)	15 (0.8)	223 (1.7)	3 (0.4)	207 (3.5)	32 (1.1)	218 (1.4)
Kentucky	30 (1.7)	221 (2.1)	10 (0.7)	223 (2.5)	20 (0.9)	215 (1.9)	10 (0.7)	201 (2.2)	31 (1.3)	207 (1.5)
Louisiana	33 (1.3)	207 (2.1)	9 (0.6)	216 (2.4)	18 (0.9)	202 (1.9)	8 (0.6)	197 (2.3)	33 (1.4)	202 (1.3)
Maine*	41 (1.7)	236 (1.4)	9 (0.8)	236 (2.3)	17 (1.2)	225 (1.8)	3 (0.4)	214 (4.0)	30 (1.4)	219 (1.7)
Maryland	44 (1.4)	219 (1.9)	8 (0.6)	219 (2.3)	12 (0.7)	208 (2.8)	4 (0.4)	197 (5.0)	32 (1.2)	205 (2.1)
Massachusetts	46 (1.5)	236 (1.1)	8 (0.6)	234 (2.2)	11 (0.6)	223 (2.5)	3 (0.4)	206 (3.6)	33 (1.4)	217 (1.9)
Michigan	37 (1.8)	224 (2.2)	10 (0.7)	225 (2.4)	14 (0.8)	213 (2.3)	5 (0.5)	205 (3.7)	34 (1.4)	211 (1.7)
Minnesota	40 (1.5)	228 (1.7)	9 (0.7)	232 (2.8)	13 (0.9)	219 (2.3)	2 (0.3)	*** (***)	36 (1.3)	215 (1.6)
Mississippi	34 (1.5)	205 (1.7)	7 (0.5)	210 (2.8)	16 (1.0)	198 (2.4)	8 (0.7)	189 (2.7)	35 (1.4)	196 (2.0)
Missouri	36 (1.3)	229 (1.9)	10 (0.7)	228 (2.5)	17 (0.9)	216 (2.0)	6 (0.5)	212 (2.7)	32 (1.2)	214 (1.4)
Nebraska*	44 (1.2)	229 (1.6)	10 (0.8)	232 (3.2)	12 (0.7)	218 (2.3)	3 (0.4)	*** (***)	31 (1.3)	212 (1.5)
New Hampshire*	43 (1.7)	236 (1.6)	9 (0.7)	236 (2.5)	14 (1.0)	222 (2.4)	4 (0.4)	213 (3.6)	30 (1.2)	223 (1.8)
New Jersey*	45 (1.8)	234 (1.8)	8 (0.7)	231 (2.8)	10 (0.7)	217 (2.6)	4 (0.4)	206 (4.3)	33 (1.6)	214 (1.8)
New Mexico	31 (1.8)	223 (2.0)	10 (0.9)	220 (2.8)	16 (1.1)	211 (2.1)	6 (0.7)	194 (3.3)	37 (1.7)	204 (2.2)
New York*	39 (1.5)	228 (1.4)	8 (0.8)	222 (2.4)	13 (0.7)	210 (2.3)	4 (0.5)	198 (3.8)	36 (1.5)	208 (1.8)
North Carolina	39 (1.3)	221 (1.7)	8 (0.6)	220 (2.6)	16 (0.8)	207 (2.2)	7 (0.5)	197 (2.6)	29 (0.9)	206 (1.6)
North Dakota	47 (1.5)	234 (1.2)	9 (0.7)	231 (2.7)	11 (0.8)	225 (2.2)	3 (0.4)	*** (***)	30 (1.3)	217 (1.4)
Ohio	36 (1.1)	224 (1.6)	10 (0.7)	225 (2.8)	15 (1.0)	216 (2.1)	5 (0.6)	208 (4.1)	33 (1.0)	213 (1.6)
Oklahoma	35 (1.6)	227 (1.6)	12 (0.8)	230 (2.3)	14 (0.9)	218 (2.1)	6 (0.5)	211 (3.1)	33 (1.3)	217 (1.1)
Pennsylvania	38 (1.7)	230 (1.7)	8 (0.6)	233 (2.3)	15 (0.8)	217 (1.9)	4 (0.4)	210 (2.8)	34 (1.1)	214 (1.6)
Rhode Island	36 (1.8)	227 (2.4)	8 (0.7)	229 (2.6)	11 (0.8)	210 (2.6)	5 (0.5)	204 (4.9)	40 (1.6)	210 (2.2)
South Carolina	37 (1.5)	219 (1.6)	8 (0.6)	223 (3.0)	19 (1.0)	201 (2.0)	5 (0.6)	198 (2.8)	31 (1.2)	206 (1.7)
Tennessee	34 (1.8)	221 (2.3)	9 (0.5)	223 (3.9)	19 (1.1)	211 (2.5)	8 (0.6)	203 (2.6)	30 (1.3)	205 (1.4)
Texas	34 (1.6)	223 (2.3)	9 (0.8)	220 (2.8)	14 (0.9)	209 (2.2)	7 (0.8)	201 (2.9)	35 (1.4)	208 (1.6)
Utah	40 (1.4)	228 (1.4)	9 (0.6)	230 (2.6)	10 (0.6)	216 (2.0)	3 (0.4)	209 (4.6)	39 (1.3)	215 (1.6)
Virginia	42 (1.8)	230 (2.0)	9 (0.7)	227 (2.8)	14 (0.7)	216 (1.8)	6 (0.6)	208 (2.8)	29 (1.1)	214 (1.6)
West Virginia	33 (1.4)	226 (1.6)	10 (0.6)	225 (2.1)	20 (0.8)	213 (1.9)	8 (0.6)	204 (2.7)	29 (1.0)	208 (1.9)
Wisconsin	35 (1.2)	233 (1.6)	11 (0.6)	234 (2.0)	16 (1.0)	221 (1.5)	3 (0.3)	213 (3.9)	36 (1.2)	218 (1.5)
Wyoming	39 (1.2)	232 (1.3)	11 (0.7)	232 (2.3)	13 (0.7)	219 (2.4)	4 (0.3)	211 (4.3)	33 (1.1)	217 (1.6)
TERRITORY										
Guam	32 (1.2)	183 (2.2)	6 (0.5)	193 (5.0)	14 (0.8)	182 (3.3)	5 (0.4)	176 (5.6)	44 (1.2)	182 (2.0)

*Did not satisfy one or more of the guidelines for school sample participation rates (see Appendix B for details).

The standard errors of the estimated percentages and proficiencies appear in parentheses. It can be said with 95 percent certainty that for each population of interest, the value for the whole population is within plus or minus two standard errors of the estimate for the sample. In comparing two estimates, one must use the standard error of the difference (see Appendix for details). Percentages may not total 100 percent due to rounding error. ***Sample size insufficient to permit reliable estimate. There were fewer than 62 students.

SOURCE: National Assessment of Educational Progress (NAEP), 1992 Reading Assessment.

FIGURE 3

Average Overall Reading Proficiency by Selected Demographics for Five Performance Bands (Quintiles)
1992 Grade 4

THE NATION'S REPORT CARD naep

	RACE/ETHNICITY			GENDER		SIZE AND TYPE OF COMMUNITY				PARENTS' EDUCATION			
	White	Black	Hispanic	Male	Female	Advantaged Urban	Disadvantaged Urban	Extreme Rural	Other	College Graduate	Some College	High School Graduate	Less than High School
Alabama (AL)	1	1	1	1	1	2	2	2	1	1	1	2	2
Arizona (AZ)	2	4	3	1	2	1	4	1	1	2	1	1	1
Arkansas (AR)	2	2	1	2	2	x	3	2	2	1	3	3	3
California (CA)	1	1	1	1	1	3	1	x	1	1	1	1	1
Colorado (CO)	2	■	4	3	3	1	4	3	3	3	3	3	2
Connecticut (CT)	■	3	2	■	4	3	2	x	■	■	4	3	3
Delaware (DE)*	3	3	1	2	3	1	■	3	3	2	2	1	2
District of Columbia (DC)	■	1	1	1	1	1	1	x	1	1	1	1	1
Florida (FL)	1	1	4	1	1	1	1	3	2	1	1	2	2
Georgia (GA)	3	3	2	3	2	3	2	2	2	2	2	2	3
Hawaii (HI)	1	2	2	1	1	1	1	1	1	1	1	1	2
Idaho (ID)	3	x	3	4	[illegible]	2	x	3	3	4	4	3	4
Indiana (IN)	4	4	■	4	4	■	4	4	4	4	4	■	■
Iowa (IA)	4	■	■	■	■	■	■	■	■	■	■	■	4
Kentucky (KY)	1	3	2	2	3	■	3	2	2	2	3	3	3
Louisiana (LA)	1	2	1	1	1	1	1	1	1	1	1	1	2
Maine (ME)*	■	x	■	■	■	x	x	■	■	■	■	■	■
Maryland (MD)	2	2	3	2	2	1	1	2	2	2	2	2	1
Massachusetts (MA)	■	■	4	■	■	4	4	x	■	■	■	■	4
Michigan (MI)	3	2	3	3	3	■	2	4	3	3	3	3	4
Minnesota (MN)	3	2	4	4	4	2	x	3	4	4	■	■	x
Mississippi (MS)	1	1	1	1	1	x	1	1	1	1	1	1	1
Missouri (MO)	4	3	4	4	4	■	2	4	4	4	3	4	■
Nebraska (NE)*	4	4	■	4	■	4	■	■	3	4	■	4	x
New Hampshire (NH)*	■	x	■	■	■	4	x	■	■	■	■	■	■
New Jersey (NJ)*	■	4	3	■	■	■	3	x	■	■	4	4	4
New Mexico (NM)	3	■	3	2	1	3	4	1	1	3	2	3	1
New York (NY)*	4	■	1	3	3	2	3	4	4	3	2	2	2
North Carolina (NC)	2	3	2	2	2	3	4	2	2	2	2	2	1
North Dakota (ND)	4	x	■	■	■	3	x	■	■	■	4	■	x
Ohio (OH)	2	4	4	3	3	4	3	4	4	3	3	4	4
Oklahoma (OK)	3	4	■	4	4	2	■	4	4	3	4	4	■
Pennsylvania (PA)	■	2	3	4	4	3	3	■	■	4	■	4	■
Rhode Island (RI)	4	1	2	3	3	4	2	x	4	3	4	2	3
South Carolina (SC)	2	3	2	2	2	2	2	1	2	2	2	1	2
Tennessee (TN)	2	2	2	3	2	4	2	2	3	2	3	3	3
Texas (TX)	3	4	3	2	2	■	4	2	2	3	2	2	2
Utah (UT)	3	x	4	3	4	2	3	4	3	4	4	4	4
Virginia (VA)	■	■	4	4	4	■	4	3	3	4	3	4	4
West Virginia (WV)	1	■	3	3	3	x	■	3	3	3	3	3	3
Wisconsin (WI)	■	4	■	■	■	4	■	4	■	■	■	■	■
Wyoming (WY)	4	x	■	■	■	3	■	■	4	■	■	■	■
Guam (GU)	1	1	1	1	1	x	x	1	1	1	1	1	1

Quintiles of Performance

bottom 20 percent				top 20 percent
1	2	3	4	■
1st	2nd	3rd	4th	5th

lower ←—— proficiency ——→ higher

States categorized in the bottom 20 percent of performance have average reading proficiencies in the lowest fifth of the average reading proficiency distribution of all states and are indicated by the number 1 (first quintile). States with average proficiencies in the top 20 percent of the distribution are indicated by the number 5 (fifth quintile). The numbers 2, 3, and 4 indicate states with average proficiencies in the second, third, and fourth fifths of the distribution.

* Did not satisfy one or more of the guidelines for sample participation rates (see Appendix for details).

x Sample size too small (fewer than 62 students) to permit reliable reporting of performance bands (quintiles).

The Instructional Emphasis in Fourth Grade Classrooms

Teachers of the fourth graders in the national and state assessments were asked to characterize their reading instruction by describing the amount of emphasis they placed on various approaches to teaching reading -- literature-based reading, integration of reading and writing, whole language, and phonics. There has been considerable research about these methods, and the various studies indicate benefits for each approach depending upon the students and their skills. As shown in TABLE 10, with the exception of phonics, about half the fourth graders (from 40 to 54 percent) were receiving heavy instructional emphasis in each of these approaches. Both the comparatively small percentage of fourth graders receiving heavy emphasis in phonics (11 percent), and their lower average proficiency compared to fourth graders receiving little or no such emphasis, indicate that the tendency to use the phonics approach with young readers may carry over into remedial situations with less proficient fourth graders. The state-by-state results shown in TABLES 11 through 14 reflect the national patterns.

TABLE 10 **Teachers' Reports on Instructional Emphases, Grade 4, 1992 Reading Assessment**

	Heavy Emphasis		Moderate Emphasis		Little or No Emphasis	
	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency
Literature-Based Reading	49 (3.0)	221 (1.9)	39 (3.2)	218 (1.8)	12 (1.9)	212 (2.9)
Top One-Third	58 (4.0)	238 (1.8)	33 (4.4)	235 (2.3)	9 (2.4)	231 (4.6)
Bottom One-Third	46 (5.3)	194 (2.5)	39 (4.6)	200 (2.2)	15 (4.0)	198 (3.8)
Integration of Reading and Writing	54 (2.6)	220 (2.1)	44 (2.5)	217 (1.6)	3 (0.8)	212 (5.0)
Top One-Third	58 (4.4)	238 (1.7)	39 (4.2)	234 (2.5)	3 (1.7)	229 (3.6)
Bottom One-Third	49 (4.2)	221 (1.6)	49 (4.1)	216 (1.8)	2 (0.9)	208 (8.3)
Whole Language	40 (2.5)	220 (2.5)	42 (2.5)	218 (1.2)	19 (1.5)	218 (2.0)
Top One-Third	46 (4.2)	240 (2.2)	39 (4.4)	234 (1.7)	15 (3.0)	233 (2.0)
Bottom One-Third	42 (4.0)	194 (2.3)	36 (3.7)	196 (2.4)	22 (2.8)	205 (3.3)
Phonics	11 (1.4)	208 (3.1)	50 (3.0)	218 (1.2)	39 (2.2)	222 (2.3)
Top One-Third	6 (2.2)	233 (4.9)	46 (4.4)	235 (1.4)	48 (4.6)	237 (2.3)
Bottom One-Third	17 (2.3)	190 (3.0)	50 (4.5)	197 (2.1)	33 (4.3)	200 (3.5)

The standard errors of the estimated percentages and proficiencies appear in parentheses. It can be said with 95 percent certainty that for each population of interest, the value for the whole population is within plus or minus two standard errors of the estimate for the sample. In comparing two estimates, one must use the standard error of the difference (see Appendix for details). Percentages may not total 100 percent due to rounding error.

SOURCE: National Assessment of Educational Progress (NAEP), 1992 Reading Assessment.

TABLE 11 | Teachers' Reports on the Instructional Emphasis Placed on Literature-Based Reading, Grade 4, 1992 Reading Assessment

PUBLIC SCHOOLS	Heavy Emphasis		Moderate Emphasis		Little or No Emphasis	
	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency
NATION	50 (3.1)	220 (2.0)	38 (3.3)	217 (1.9)	11 (1.9)	208 (3.2)
Northeast	51 (8.9)	223 (5.0)	38 (7.6)	221 (5.2)!	10 (3.5)	204 (7.3)!
Southeast	43 (4.9)	215 (6.2)	39 (5.9)	215 (3.3)	18 (5.1)	205 (2.4)!
Central	55 (5.3)	224 (2.0)	36 (5.8)	217 (3.8)	9 (3.5)	219 (5.8)!
West	52 (6.0)	217 (4.2)	40 (7.4)	214 (3.3)!	8 (2.2)	203 (6.6)!
STATES						
Alabama	32 (3.2)	212 (2.9)	55 (3.8)	207 (2.3)	14 (2.6)	205 (4.4)!
Arizona	48 (3.3)	214 (1.5)	37 (2.8)	207 (1.9)	15 (2.7)	209 (5.6)
Arkansas	24 (2.4)	212 (2.6)	56 (3.4)	213 (1.9)	20 (2.9)	210 (2.4)
California	87 (2.5)	206 (2.4)	12 (2.3)	186 (6.1)	2 (0.9)	*** (***)
Colorado	73 (3.5)	220 (1.4)	22 (3.0)	214 (2.6)	5 (1.6)	217 (4.1)!
Connecticut	62 (3.7)	229 (1.5)	30 (3.6)	217 (3.4)	8 (1.9)	215 (7.5)!
Delaware*	44 (1.3)	217 (1.4)	40 (1.4)	214 (1.1)	16 (0.7)	209 (1.7)
Dist. Columbia	37 (1.3)	191 (1.7)	51 (1.6)	186 (1.4)	12 (0.8)	184 (3.1)
Florida	52 (3.5)	211 (2.0)	42 (3.4)	209 (1.9)	6 (1.1)	195 (5.4)
Georgia	65 (3.9)	215 (2.2)	29 (3.4)	212 (2.5)	6 (1.5)	198 (5.4)!
Hawaii	49 (3.3)	203 (2.5)	41 (3.0)	204 (1.9)	9 (1.7)	203 (4.7)
Idaho	44 (3.5)	222 (1.6)	48 (3.5)	220 (1.3)	8 (1.7)	215 (3.9)!
Indiana	37 (3.3)	225 (2.2)	50 (3.1)	221 (1.4)	13 (2.3)	221 (3.8)
Iowa	52 (3.8)	227 (1.4)	41 (4.0)	226 (1.7)	7 (2.0)	224 (3.1)!
Kentucky	35 (3.8)	213 (2.4)	43 (3.8)	214 (1.8)	22 (3.5)	214 (2.3)
Louisiana	28 (3.1)	206 (3.0)	55 (2.9)	204 (1.8)	17 (2.7)	207 (3.3)
Maine*	62 (4.1)	229 (1.7)	34 (3.8)	227 (1.7)	4 (1.4)	229 (5.8)!
Maryland	66 (3.0)	215 (2.0)	30 (2.9)	209 (2.3)	4 (1.1)	189 (5.4)!
Massachusetts	51 (4.4)	231 (1.9)	42 (4.3)	225 (1.6)	8 (1.7)	222 (3.7)!
Michigan	46 (3.9)	220 (2.1)	45 (3.6)	217 (2.4)	10 (1.9)	211 (6.8)!
Minnesota	41 (3.3)	224 (2.0)	49 (3.4)	222 (2.0)	11 (1.8)	211 (4.7)
Mississippi	28 (3.5)	199 (2.3)	60 (3.7)	201 (2.1)	12 (2.3)	202 (3.6)
Missouri	46 (3.9)	222 (2.6)	40 (3.4)	221 (2.1)	15 (2.5)	221 (2.9)
Nebraska*	49 (4.0)	224 (1.8)	39 (3.8)	222 (1.7)	13 (2.9)	222 (4.2)!
New Hampshire*	59 (3.5)	230 (1.5)	38 (3.2)	230 (2.1)	3 (1.0)	224 (6.8)!
New Jersey*	36 (3.7)	228 (3.1)	46 (4.2)	226 (2.2)	18 (2.6)	215 (3.8)
New Mexico	50 (4.2)	215 (2.1)	43 (4.2)	209 (2.8)	7 (1.7)	203 (8.3)!
New York*	57 (3.8)	218 (2.0)	37 (3.7)	213 (3.6)	6 (1.3)	220 (3.8)!
North Carolina	60 (3.6)	215 (1.7)	35 (3.2)	210 (2.3)	5 (1.4)	200 (4.4)!
North Dakota	24 (3.2)	228 (2.2)	56 (3.7)	227 (1.4)	19 (3.5)	226 (2.9)!
Ohio	49 (4.3)	223 (1.9)	37 (3.4)	214 (2.3)	15 (3.3)	218 (4.7)!
Oklahoma	40 (3.4)	227 (1.5)	51 (3.5)	219 (1.4)	8 (2.1)	222 (3.1)!
Pennsylvania	40 (3.4)	225 (2.7)	43 (3.6)	222 (1.9)	17 (3.5)	214 (3.0)!
Rhode Island	49 (3.6)	222 (2.4)	46 (3.3)	215 (3.1)	5 (1.5)	206 (6.4)!
South Carolina	45 (3.9)	211 (2.0)	43 (3.6)	210 (2.0)	12 (2.2)	213 (4.5)!
Tennessee	28 (2.9)	214 (2.6)	58 (2.9)	213 (1.9)	13 (1.9)	209 (3.7)
Texas	53 (4.0)	220 (2.3)	38 (3.5)	211 (2.9)	10 (2.3)	208 (4.6)!
Utah	47 (3.5)	223 (1.7)	44 (3.4)	220 (1.4)	9 (1.7)	216 (2.7)!
Virginia	58 (3.4)	227 (2.0)	35 (3.2)	217 (2.[illegible])	7 (1.5)	222 (4.9)!
West Virginia	24 (2.7)	217 (3.6)	57 (3.6)	218 (1.9)	19 (2.9)	210 (3.5)
Wisconsin	49 (4.9)	228 (1.7)	40 (4.4)	223 (1.7)	11 (2.2)	220 (4.0)
Wyoming	55 (3.4)	226 (1.6)	38 (3.1)	224 (1.9)	7 (1.5)	218 (4.7)!
TERRITORY						
Guam	39 (0.9)	180 (2.2)	45 (0.9)	185 (2.0)	15 (0.8)	177 (3.5)

*Did not satisfy one or more of the guidelines for school sample participation rates (see Appendix B for details).

The standard errors of the estimated percentages and proficiencies appear in parentheses. It can be said with 95 percent certainty that for each population of interest, the value for the whole population is within plus or minus two standard errors of the estimate for the sample. In comparing two estimates, one must use the standard error of the difference (see Appendix for details). Percentages may not total 100 percent due to rounding error. ***Sample size insufficient to permit reliable estimate. There were fewer than 62 students. !Interpret with caution - the nature of the sample does not allow accurate determination of the variability of this estimated statistic.

SOURCE: National Assessment of Educational Progress (NAEP), 1992 Reading Assessment.

TABLE 12

Teachers' Reports on the Instructional Emphasis Placed on Integrating Reading and Writing, Grade 4, 1992 Reading Assessment

PUBLIC SCHOOLS	Heavy Emphasis		Moderate Emphasis		Little or No Emphasis	
	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency
NATION	55 (2.7)	220 (2.2)	42 (2.6)	215 (1.7)	3 (0.9)	211 (5.4)!
Northeast	58 (6.1)	222 (5.5)	40 (5.5)	218 (3.4)	2 (1.7)	*** (***)
Southeast	49 (4.9)	214 (5.1)	50 (5.1)	213 (3.7)	1 (0.7)	*** (***)
Central	56 (5.6)	223 (2.8)	42 (5.3)	218 (3.0)	2 (1.0)	*** (***)
West	56 (5.0)	218 (4.5)	38 (4.4)	210 (2.4)	6 (3.3)	213 (6.2)!
STATES						
Alabama	47 (3.2)	205 (2.7)	50 (3.1)	211 (2.4)	2 (1.0)	*** (***)
Arizona	56 (3.1)	210 (1.6)	41 (2.8)	211 (1.8)	3 (0.8)	215 (8.9)!
Arkansas	31 (3.0)	213 (2.1)	55 (3.1)	213 (1.8)	13 (2.6)	205 (2.9)!
California	80 (2.7)	205 (2.7)	19 (2.7)	198 (4.4)	0 (0.4)	*** (***)
Colorado	70 (2.8)	220 (1.3)	29 (2.7)	214 (2.5)	1 (0.6)	*** (***)
Connecticut	72 (3.2)	227 (1.5)	27 (3.1)	219 (3.8)	1 (0.6)	*** (***)
Delaware*	49 (1.4)	220 (1.3)	46 (1.5)	210 (1.0)	5 (0.4)	200 (2.5)
Dist. Columbia	76 (1.3)	189 (1.0)	23 (1.3)	181 (2.2)	1 (0.1)	*** (***)
Florida	65 (3.4)	209 (1.8)	35 (3.4)	210 (1.6)	0 (0.3)	*** (***)
Georgia	68 (2.9)	213 (2.1)	30 (2.9)	212 (2.6)	2 (0.8)	*** (***)
Hawaii	69 (3.4)	205 (2.0)	30 (3.2)	200 (2.5)	2 (0.7)	*** (***)
Idaho	50 (3.5)	221 (1.4)	48 (3.4)	221 (1.3)	2 (0.9)	*** (***)
Indiana	41 (3.9)	224 (2.1)	53 (3.7)	221 (1.6)	6 (1.8)	224 (4.9)!
Iowa	59 (4.0)	226 (1.5)	39 (4.2)	228 (1.5)	2 (1.2)	*** (***)
Kentucky	52 (3.7)	213 (1.8)	46 (3.7)	215 (1.7)	3 (1.3)	208 (8.0)!
Louisiana	45 (3.3)	203 (2.1)	47 (3.6)	206 (1.6)	8 (2.0)	210 (4.5)!
Maine*	61 (3.8)	228 (1.8)	37 (3.8)	229 (1.7)	3 (1.0)	*** (***)
Maryland	78 (2.8)	214 (1.8)	21 (2.7)	208 (3.6)	1 (0.7)	*** (***)
Massachusetts	58 (3.6)	230 (1.4)	36 (2.9)	226 (1.9)	6 (1.6)	219 (3.7)!
Michigan	49 (3.7)	217 (2.3)	48 (3.8)	218 (2.2)	3 (1.0)	*** (***)
Minnesota	45 (4.1)	225 (1.7)	52 (4.1)	219 (2.6)	3 (1.2)	218 (4.3)!
Mississippi	44 (3.2)	200 (2.2)	50 (3.5)	201 (2.0)	6 (1.7)	191 (4.1)!
Missouri	52 (3.5)	221 (2.2)	44 (3.4)	223 (1.6)	4 (1.1)	219 (8.7)!
Nebraska*	56 (3.8)	224 (1.6)	42 (3.7)	220 (2.0)	2 (0.9)	*** (***)
New Hampshire*	63 (3.1)	231 (1.5)	34 (3.1)	228 (1.8)	3 (0.8)	*** (***)
New Jersey*	60 (4.0)	227 (2.2)	37 (4.2)	221 (2.6)	4 (1.3)	221 (7.7)!
New Mexico	66 (3.8)	213 (2.5)	33 (3.9)	211 (2.1)	1 (0.8)	*** (***)
New York*	67 (2.9)	218 (1.7)	31 (2.8)	213 (2.9)	1 (0.7)	*** (***)
North Carolina	62 (3.1)	212 (1.8)	37 (3.1)	214 (1.8)	1 (0.7)	*** (***)
North Dakota	38 (3.8)	227 (2.0)	58 (3.7)	226 (1.4)	4 (1.7)	229 (3.4)!
Ohio	52 (4.1)	221 (1.9)	45 (3.7)	217 (1.8)	3 (1.3)	202 (9.3)!
Oklahoma	44 (3.7)	223 (1.6)	52 (3.7)	222 (1.4)	4 (1.2)	222 (5.7)!
Pennsylvania	50 (3.9)	221 (2.4)	46 (3.7)	222 (1.8)	4 (1.2)	217 (6.5)!
Rhode Island	54 (3.3)	221 (2.1)	44 (3.3)	216 (3.3)	2 (0.7)	*** (***)
South Carolina	55 (3.7)	210 (1.9)	42 (3.6)	210 (2.3)	3 (1.1)	221 (7.9)!
Tennessee	47 (2.9)	214 (2.4)	47 (2.7)	212 (2.1)	6 (1.4)	205 (3.5)!
Texas	58 (3.3)	214 (2.6)	38 (3.1)	217 (2.4)	5 (1.6)	215 (4.7)!
Utah	45 (3.0)	224 (1.8)	51 (3.0)	220 (1.5)	4 (1.2)	217 (4.0)!
Virginia	72 (3.0)	225 (1.9)	27 (2.8)	218 (2.0)	1 (0.8)	*** (***)
West Virginia	36 (3.5)	221 (2.0)	59 (3.5)	215 (1.7)	4 (1.2)	197 (8.4)!
Wisconsin	54 (3.2)	225 (1.6)	42 (3.3)	225 (1.5)	4 (1.5)	219 (7.2)!
Wyoming	50 (3.7)	226 (1.8)	46 (3.7)	224 (1.6)	4 (1.2)	212 (6.1)!
TERRITORY						
Guam	51 (1.1)	181 (1.9)	47 (1.0)	182 (1.6)	2 (0.4)	*** (***)

*Did not satisfy one or more of the guidelines for school sample participation rates (see Appendix B for details).

The standard errors of the estimated percentages and proficiencies appear in parentheses. It can be said with 95 percent certainty that for each population of interest, the value for the whole population is within plus or minus two standard errors of the estimate for the sample. In comparing two estimates, one must use the standard error of the difference (see Appendix for details). Percentages may not total 100 percent due to rounding error. When the proportion of students is either 0 percent or 100 percent, the standard error is inestimable. However, percentages 99.5 percent and greater were rounded to 100 percent and percentages 0.5 percent and less were rounded to 0 percent. ***Sample size insufficient to permit reliable estimate. There were fewer than 62 students. !Interpret with caution - the nature of the sample does not allow accurate determination of the variability of this estimated statistic.

SOURCE: National Assessment of Educational Progress (NAEP), 1992 Reading Assessment.

TABLE 13 | Teachers' Reports on the Instructional Emphasis Placed on Whole Language, Grade 4, 1992 Reading Assessment

PUBLIC SCHOOLS	Heavy Emphasis		Moderate Emphasis		Little or No Emphasis	
	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency
NATION	42 (3.0)	219 (2.6)	41 (2.7)	217 (1.4)	18 (1.8)	215 (2.0)
Northeast	50 (5.0)	227 (5.9)	36 (3.6)	217 (3.8)	13 (3.2)	207 (5.8)!
Southeast	39 (5.7)	211 (6.0)	37 (4.8)	214 (2.7)	24 (4.3)	216 (3.0)!
Central	34 (7.2)	225 (4.1)!	47 (6.9)	218 (2.4)	19 (3.7)	221 (4.0)
West	45 (3.9)	215 (4.7)	41 (4.2)	217 (3.4)	14 (2.1)	211 (4.2)
STATES						
Alabama	30 (2.8)	205 (3.8)	51 (3.3)	210 (2.2)	19 (2.3)	211 (4.2)
Arizona	30 (2.7)	207 (2.8)	44 (2.7)	212 (1.6)	26 (2.5)	211 (3.4)
Arkansas	21 (3.3)	207 (3.2)	50 (3.8)	212 (2.1)	29 (3.3)	215 (1.9)
California	69 (3.0)	205 (2.7)	28 (3.1)	200 (4.3)	4 (1.1)	203 (7.7)!
Colorado	57 (3.2)	220 (1.4)	35 (2.8)	215 (2.1)	8 (1.8)	222 (4.2)!
Connecticut	48 (3.8)	226 (2.1)	41 (3.5)	224 (2.3)	11 (2.4)	220 (4.7)!
Delaware*	33 (1.0)	218 (1.8)	48 (1.2)	213 (1.1)	19 (0.7)	213 (1.3)
Dist. Columbia	42 (1.5)	188 (1.7)	47 (1.5)	186 (1.5)	11 (0.7)	190 (3.2)
Florida	51 (4.1)	208 (2.2)	40 (3.7)	210 (1.8)	9 (1.5)	214 (3.3)
Georgia	61 (3.3)	214 (2.2)	30 (3.0)	215 (2.2)	9 (1.6)	201 (4.1)
Hawaii	38 (3.3)	200 (2.8)	44 (3.2)	206 (1.9)	18 (2.2)	206 (3.5)
Idaho	35 (3.5)	222 (1.4)	46 (3.3)	221 (1.5)	19 (2.8)	218 (2.3)
Indiana	33 (3.7)	222 (2.3)	50 (3.8)	224 (1.6)	18 (2.4)	221 (2.7)
Iowa	47 (4.1)	228 (1.5)	40 (3.7)	226 (1.7)	13 (2.3)	223 (2.6)
Kentucky	28 (3.3)	209 (2.2)	49 (3.6)	216 (2.2)	23 (3.2)	214 (1.6)
Louisiana	34 (3.4)	198 (2.5)	36 (3.1)	207 (2.1)	30 (3.5)	211 (2.1)
Maine*	35 (4.1)	228 (2.4)	46 (4.1)	229 (1.6)	19 (3.2)	228 (2.8)
Maryland	59 (3.2)	214 (2.1)	32 (2.8)	211 (3.0)	9 (1.9)	209 (4.0)!
Massachusetts	33 (3.8)	229 (2.5)	48 (4.1)	229 (1.7)	19 (2.7)	221 (2.4)
Michigan	41 (3.4)	219 (3.1)	44 (3.3)	217 (1.7)	15 (2.3)	214 (3.5)
Minnesota	28 (3.2)	224 (2.1)	47 (3.8)	224 (2.0)	26 (3.4)	214 (3.3)
Mississippi	31 (3.6)	199 (2.5)	44 (3.3)	198 (2.4)	25 (3.2)	205 (2.5)
Missouri	32 (3.3)	219 (2.8)	48 (3.2)	223 (1.5)	20 (2.9)	224 (2.4)
Nebraska*	26 (3.8)	222 (2.5)	50 (4.9)	222 (1.5)	23 (4.2)	225 (2.8)
New Hampshire*	37 (3.5)	231 (2.1)	47 (3.2)	228 (1.6)	16 (2.3)	231 (3.2)
New Jersey*	43 (3.6)	225 (2.4)	39 (3.4)	224 (2.5)	18 (3.0)	225 (3.8)
New Mexico	35 (3.7)	214 (3.0)	45 (4.0)	212 (2.7)	21 (3.5)	206 (3.4)
New York*	49 (3.1)	214 (2.0)	40 (3.1)	217 (2.9)	11 (1.9)	220 (5.7)
North Carolina	49 (3.5)	212 (2.3)	44 (3.2)	213 (1.7)	8 (1.4)	217 (3.6)
North Dakota	19 (3.1)	225 (2.4)	45 (4.7)	225 (1.9)	36 (4.6)	231 (2.0)
Ohio	31 (4.2)	219 (2.4)	48 (3.9)	218 (2.1)	21 (3.1)	221 (3.2)
Oklahoma	24 (3.0)	223 (2.0)	58 (3.2)	222 (1.5)	18 (2.5)	220 (1.6)
Pennsylvania	34 (3.4)	223 (2.5)	42 (3.4)	220 (2.0)	23 (3.6)	222 (2.9)
Rhode Island	30 (3.3)	222 (2.8)	48 (3.4)	217 (2.8)	23 (2.8)	217 (3.8)
South Carolina	42 (3.9)	209 (2.1)	41 (3.3)	213 (2.3)	17 (2.7)	210 (3.6)
Tennessee	27 (3.0)	209 (2.9)	49 (3.7)	215 (2.0)	24 (2.6)	211 (2.3)
Texas	42 (3.0)	212 (2.8)	41 (3.5)	217 (2.5)	17 (2.6)	217 (2.6)
Utah	34 (2.9)	224 (2.2)	52 (2.7)	221 (1.4)	14 (2.2)	215 (2.4)
Virginia	48 (4.2)	225 (2.2)	41 (3.5)	221 (2.2)	12 (2.2)	221 (3.3)
West Virginia	26 (3.5)	220 (2.7)	50 (4.1)	214 (2.1)	24 (3.2)	216 (2.3)
Wisconsin	35 (3.6)	225 (1.9)	50 (3.7)	224 (1.3)	15 (2.8)	228 (3.5)
Wyoming	37 (3.1)	226 (1.9)	47 (2.9)	224 (1.6)	16 (3.1)	225 (2.4)
TERRITORY						
Guam	40 (0.9)	179 (1.9)	42 (1.1)	183 (2.1)	18 (0.9)	186 (2.9)

*Did not satisfy one or more of the guidelines for school sample participation rates (see Appendix B for details).

The standard errors of the estimated percentages and proficiencies appear in parentheses. It can be said with 95 percent certainty that for each population of interest, the value for the whole population is within plus or minus two standard errors of the estimate for the sample. In comparing two estimates, one must use the standard error of the difference (see Appendix for details). Percentages may not total 100 percent due to rounding error. !Interpret with caution - the nature of the sample does not allow accurate determination of the variability of this estimated statistic.

SOURCE: National Assessment of Educational Progress (NAEP), 1992 Reading Assessment.

TABLE 14 | Teachers' Reports on the Instructional Emphasis Placed on Phonics, Grade 4, 1992 Reading Assessment

PUBLIC SCHOOLS	Heavy Emphasis		Moderate Emphasis		Little or No Emphasis	
	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency
NATION	11 (1.4)	206 (2.9)	48 (3.2)	217 (1.3)	40 (2.4)	221 (2.4)
Northeast	9 (2.6)	204 (7.4)!	44 (6.6)	216 (2.8)	47 (5.6)	227 (6.1)
Southeast	14 (2.0)	207 (4.6)	53 (4.4)	214 (3.2)	33 (3.9)	215 (5.8)
Central	8 (3.5)	207 (8.4)!	54 (6.7)	222 (2.1)	38 (3.8)	223 (3.6)
West	14 (3.0)	204 (5.7)!	40 (7.5)	211 (3.5)!	45 (6.5)	220 (4.9)
STATES						
Alabama	18 (2.3)	199 (3.9)	60 (3.0)	211 (1.8)	22 (2.8)	209 (3.5)
Arizona	8 (1.3)	204 (4.4)	52 (3.2)	209 (1.8)	39 (3.3)	214 (1.7)
Arkansas	15 (2.7)	204 (4.3)	62 (3.2)	212 (1.5)	22 (2.8)	218 (2.0)
California	8 (1.5)	196 (6.6)	40 (2.7)	203 (3.2)	52 (3.2)	205 (3.0)
Colorado	8 (1.8)	213 (3.0)!	54 (3.3)	218 (1.5)	38 (3.0)	220 (2.0)
Connecticut	6 (1.2)	205 (8.0)!	49 (3.1)	220 (2.1)	45 (3.2)	232 (1.7)
Delaware*	18 (0.8)	204 (1.6)	52 (1.1)	214 (0.8)	30 (1.0)	222 (1.6)
Dist. Columbia	40 (1.5)	182 (1.6)	54 (1.5)	189 (1.6)	5 (0.6)	213 (5.6)
Florida	12 (1.7)	197 (4.6)	59 (2.5)	210 (1.6)	29 (2.3)	214 (1.9)
Georgia	19 (2.7)	204 (4.3)	51 (2.8)	214 (2.0)	30 (3.4)	216 (3.0)
Hawaii	9 (1.5)	194 (5.1)	61 (3.1)	204 (2.0)	30 (2.9)	205 (2.8)
Idaho	11 (2.3)	216 (2.5)!	51 (3.4)	220 (1.1)	38 (3.4)	223 (1.7)
Indiana	6 (1.7)	204 (4.4)!	58 (3.9)	223 (1.6)	36 (3.4)	225 (2.1)
Iowa	8 (2.0)	218 (3.3)!	49 (3.2)	228 (1.5)	43 (3.2)	226 (1.6)
Kentucky	14 (2.4)	208 (2.9)	66 (3.5)	214 (1.6)	20 (3.3)	215 (2.9)
Louisiana	22 (2.9)	198 (2.2)	54 (3.0)	207 (1.8)	23 (3.1)	206 (2.4)
Maine*	11 (2.4)	225 (3.4)!	50 (4.0)	228 (1.7)	39 (3.9)	230 (1.8)
Maryland	7 (1.6)	191 (7.3)!	45 (3.3)	207 (2.3)	48 (3.4)	220 (1.8)
Massachusetts	14 (2.4)	215 (2.5)	49 (3.2)	227 (1.8)	36 (3.4)	234 (1.8)
Michigan	9 (1.8)	204 (4.6)	49 (3.5)	215 (2.2)	42 (3.1)	223 (2.0)
Minnesota	10 (2.4)	213 (3.7)!	50 (3.1)	222 (1.8)	39 (3.2)	223 (2.5)
Mississippi	22 (3.0)	195 (3.6)	65 (3.0)	201 (1.6)	13 (2.2)	203 (4.0)
Missouri	13 (2.3)	212 (4.2)	54 (3.5)	220 (1.7)	33 (3.6)	228 (2.4)
Nebraska*	17 (3.3)	224 (3.1)!	50 (4.0)	223 (1.7)	33 (3.5)	221 (2.4)
New Hampshire*	10 (1.7)	221 (3.1)	56 (3.2)	230 (1.6)	34 (3.5)	232 (2.0)
New Jersey*	12 (2.0)	210 (3.9)	58 (3.4)	222 (1.6)	30 (3.0)	236 (2.9)
New Mexico	18 (2.9)	207 (3.8)	58 (4.2)	214 (2.2)	24 (3.7)	211 (3.5)
New York*	16 (2.5)	205 (5.6)	49 (3.6)	214 (2.2)	35 (3.7)	224 (2.5)
North Carolina	15 (2.6)	210 (3.2)	52 (3.2)	209 (1.7)	33 (3.3)	220 (2.1)
North Dakota	17 (3.2)	229 (2.9)	55 (4.8)	225 (1.6)	29 (3.8)	228 (2.3)
Ohio	12 (2.4)	215 (3.9)	55 (3.8)	218 (1.9)	33 (3.9)	221 (2.7)
Oklahoma	16 (2.3)	217 (2.9)	57 (3.7)	221 (1.1)	27 (3.5)	228 (2.1)
Pennsylvania	13 (2.0)	205 (3.5)	49 (3.9)	221 (1.9)	39 (4.1)	228 (2.0)
Rhode Island	9 (1.9)	209 (5.1)!	55 (3.4)	215 (2.9)	36 (3.2)	226 (2.5)
South Carolina	15 (2.3)	204 (3.0)	55 (2.9)	210 (1.8)	30 (3.0)	215 (2.3)
Tennessee	16 (2.3)	202 (3.3)	62 (2.8)	212 (1.9)	21 (2.6)	222 (2.4)
Texas	14 (1.7)	198 (3.7)	52 (2.9)	215 (2.3)	34 (3.3)	222 (2.4)
Utah	13 (2.1)	217 (3.1)	50 (3.2)	221 (1.6)	37 (3.3)	223 (1.9)
Virginia	9 (1.6)	209 (3.9)	49 (2.8)	224 (1.8)	42 (3.4)	225 (2.1)
West Virginia	16 (2.5)	210 (3.9)	64 (3.4)	218 (1.4)	20 (2.9)	216 (3.0)
Wisconsin	6 (1.6)	217 (4.7)!	51 (3.8)	226 (1.6)	43 (4.1)	226 (1.5)
Wyoming	8 (1.8)	221 (3.5)!	54 (3.2)	224 (1.4)	39 (3.3)	227 (2.3)
TERRITORY						
Guam	29 (1.0)	179 (1.8)	56 (1.0)	181 (1.8)	15 (0.6)	189 (3.3)

*Did not satisfy one or more of the guidelines for school sample participation rates (see Appendix B for details).

The standard errors of the estimated percentages and proficiencies appear in parentheses. It can be said with 95 percent certainty that for each population of interest, the value for the whole population is within plus or minus two standard errors of the estimate for the sample. In comparing two estimates, one must use the standard error of the difference (see Appendix for details). Percentages may not total 100 percent due to rounding error. !Interpret with caution - the nature of the sample does not allow accurate determination of the variability of this estimated statistic.

SOURCE: National Assessment of Educational Progress (NAEP), 1992 Reading Assessment.

Reading as Part of Reading Instruction

Although it makes sense that learning to read would involve extensive and varied reading experiences, some researchers have found that too little instructional time actually involves the act of reading. As part of the 1992 assessment, NAEP asked both teachers and students how much time was devoted to having students read books of their own choosing. As presented in TABLE 15, the teachers reported more emphasis on this activity than did students. Also, students reported sharp decreases in this activity as they progressed through school. Eighty-seven percent of the twelfth graders reported reading books of their own choosing on less than a weekly basis. The state-by-state results at grade 4 tend to correspond to the national findings (see TABLES 16 and 17). For the nation and in a number of states, fourth graders who reported reading books of their own choosing almost every day had higher average reading proficiency than those who reported this type of reading less frequently, although this pattern is reversed at grade 12.

TABLE 15 **Teachers' and Students' Reports on the Frequency with Which Students Are Provided Time for Reading Books of Their Own Choosing, Grade 4, 1992 Reading Assessment**

	Teachers Reports: Students Are Provided Time for Reading Books of Their Own Choosing					
	Almost Every Day		**At Least Once a Week**		**Less Than Weekly**	
	Percentage of Students	**Average Proficiency**	**Percentage of Students**	**Average Proficiency**	**Percentage of Students**	**Average Proficiency**
Grade 4	67 (2.5)	221 (1.5)	25 (2.2)	215 (2.0)	8 (1.3)	211 (4.5)

	Students Reports: Students Are Provided Time For Reading Books of Their Own Choosing					
	Almost Every Day		**At Least Once a Week**		**Less Than Weekly**	
	Percentage of Students	**Average Proficiency**	**Percentage of Students**	**Average Proficiency**	**Percentage of Students**	**Average Proficiency**
Grade 4	55 (1.3)	225 (1.2)	27 (1.0)	217 (1.5)	18 (0.8)	206 (1.4)
Grade 8	15 (0.9)	261 (1.4)	25 (1.0)	260 (1.3)	60 (1.3)	261 (1.2)
Grade 12	4 (0.3)	278 (2.5)	9 (0.4)	275 (1.6)	87 (0.5)	294 (0.6)

The standard errors of the estimated percentages and proficiencies appear in parentheses. It can be said with 95 percent certainty that for each population of interest, the value for the whole population is within plus or minus two standard errors of the estimate for the sample. In comparing two estimates, one must use the standard error of the difference (see Appendix for details). Percentages may not total 100 percent due to rounding error.

SOURCE: National Assessment of Educational Progress (NAEP), 1992 Reading Assessment.

TABLE 16 | Teachers' Reports on the Frequency with Which Students Are Provided Time for Reading Books of Their Own Choosing, Grade 4, 1992 Reading Assessment

PUBLIC SCHOOLS	Almost Every Day		At Least Once a Week		Less Than Weekly	
	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency
NATION	68 (2.7)	220 (1.7)	25 (2.3)	213 (2.2)	8 (1.2)	207 (5.1)
Northeast	71 (7.7)	222 (5.0)	19 (6.3)	217 (3.2)!	10 (3.0)	214(15.2)!
Southeast	61 (4.3)	214 (3.3)	31 (4.3)	213 (3.9)	8 (1.3)	209 (4.9)!
Central	71 (4.2)	225 (2.4)	21 (3.1)	216 (4.8)	8 (2.9)	205 (5.8)!
West	69 (5.4)	217 (2.9)	27 (4.7)	208 (5.3)!	4 (0.9)	*** (***)
STATES						
Alabama	50 (3.4)	210 (2.5)	35 (3.4)	208 (2.2)	15 (2.6)	202 (5.0)
Arizona	72 (3.0)	213 (1.3)	22 (2.7)	207 (2.8)	6 (1.5)	201 (7.2)!
Arkansas	54 (3.5)	213 (1.8)	31 (2.8)	209 (2.5)	16 (2.9)	212 (2.3)
California	82 (2.5)	204 (2.7)	16 (2.2)	204 (4.2)	2 (0.9)	*** (***)
Colorado	77 (2.6)	219 (1.4)	17 (2.2)	214 (2.6)	6 (1.7)	219 (4.9)!
Connecticut	77 (2.2)	227 (1.6)	18 (2.1)	216 (4.1)	5 (1.5)	216 (5.1)!
Delaware*	60 (1.3)	216 (0.9)	24 (1.1)	216 (1.7)	16 (0.8)	208 (2.1)
Dist. Columbia	47 (1.3)	188 (1.2)	41 (1.5)	183 (1.7)	12 (0.5)	198 (2.5)
Florida	71 (3.1)	210 (1.8)	25 (2.9)	210 (2.3)	4 (1.0)	201 (6.8)!
Georgia	73 (3.0)	214 (1.9)	21 (2.8)	212 (3.3)	6 (1.2)	197 (5.4)!
Hawaii	68 (3.3)	206 (1.9)	22 (2.3)	199 (3.2)	10 (2.2)	198 (4.3)!
Idaho	76 (2.9)	222 (1.2)	19 (2.6)	218 (2.2)	5 (1.6)	214 (3.1)!
Indiana	60 (4.2)	222 (1.8)	32 (4.1)	223 (1.9)	8 (1.5)	227 (4.4)
Iowa	84 (3.2)	227 (1.1)	10 (2.2)	225 (3.3)!	7 (2.2)	222 (4.0)!
Kentucky	44 (4.3)	213 (1.9)	35 (4.0)	214 (2.1)	21 (3.3)	213 (2.6)
Louisiana	44 (3.7)	208 (1.9)	39 (3.6)	205 (2.3)	17 (2.6)	197 (3.9)
Maine*	77 (3.5)	229 (1.4)	19 (3.1)	228 (2.9)	5 (1.5)	221 (4.0)!
Maryland	68 (3.1)	215 (2.0)	25 (2.9)	204 (3.7)	7 (1.8)	211 (6.6)!
Massachusetts	68 (3.5)	229 (1.4)	27 (3.1)	229 (2.0)	5 (1.4)	205 (5.9)!
Michigan	70 (3.5)	219 (2.0)	23 (3.1)	213 (3.6)	8 (2.1)	214 (3.8)!
Minnesota	68 (4.0)	223 (1.8)	25 (3.5)	217 (2.8)	6 (1.6)	223 (6.2)!
Mississippi	39 (3.4)	206 (2.1)	46 (3.0)	196 (2.3)	15 (2.6)	198 (4.2)
Missouri	68 (3.6)	223 (1.7)	24 (3.3)	218 (2.0)	8 (2.0)	220 (4.8)!
Nebraska*	76 (3.2)	223 (1.2)	20 (3.2)	222 (3.6)	4 (1.5)	*** (***)
New Hampshire*	73 (2.9)	231 (1.6)	25 (2.7)	228 (2.4)	2 (0.9)	*** (***)
New Jersey*	45 (4.4)	226 (2.0)	32 (4.0)	224 (3.3)	23 (3.4)	223 (4.1)
New Mexico	57 (4.0)	214 (1.8)	33 (3.7)	211 (4.5)	9 (2.1)	204 (7.0)!
New York*	72 (3.1)	217 (1.5)	18 (2.3)	214 (4.4)	9 (2.1)	210(10.7)!
North Carolina	68 (3.2)	213 (1.8)	22 (2.3)	212 (2.0)	10 (2.0)	208 (4.1)!
North Dakota	68 (4.6)	227 (1.4)	23 (3.4)	227 (2.5)	9 (3.3)	224 (9.0)!
Ohio	66 (3.7)	219 (1.8)	28 (3.3)	220 (2.2)	7 (2.0)	213 (9.8)!
Oklahoma	57 (4.0)	224 (1.2)	36 (3.7)	221 (1.6)	7 (2.0)	210 (3.3)!
Pennsylvania	60 (4.0)	225 (2.1)	26 (2.9)	217 (2.2)	14 (2.7)	215 (4.0)
Rhode Island	68 (3.5)	221 (2.0)	24 (3.3)	214 (3.9)	8 (2.0)	212 (5.7)!
South Carolina	67 (3.5)	212 (1.6)	24 (2.8)	211 (2.7)	8 (1.8)	203 (4.7)!
Tennessee	42 (3.2)	213 (2.5)	43 (3.1)	214 (1.8)	15 (2.3)	207 (5.1)
Texas	64 (2.8)	218 (1.8)	29 (2.6)	212 (2.9)	7 (1.6)	204 (8.2)!
Utah	78 (3.0)	222 (1.2)	14 (2.5)	222 (2.6)	8 (1.5)	214 (3.9)
Virginia	68 (3.4)	225 (1.9)	24 (2.7)	217 (2.1)	8 (1.6)	217 (3.6)
West Virginia	51 (3.9)	219 (1.9)	29 (3.2)	214 (2.5)	20 (3.0)	212 (3.2)
Wisconsin	72 (3.7)	226 (1.0)	24 (3.4)	223 (2.5)	4 (1.2)	221 (8.1)!
Wyoming	71 (3.0)	226 (1.3)	23 (2.7)	219 (2.6)	5 (1.8)	228 (6.5)!
TERRITORY						
Guam	69 (1.0)	182 (1.6)	23 (0.9)	177 (3.0)	8 (0.5)	188 (4.2)

*Did not satisfy one or more of the guidelines for school sample participation rates (see Appendix B for details).

The standard errors of the estimated percentages and proficiencies appear in parentheses. It can be said with 95 percent certainty that for each population of interest, the value for the whole population is within plus or minus two standard errors of the estimate for the sample. In comparing two estimates, one must use the standard error of the difference (see Appendix for details). Percentages may not total 100 percent due to rounding error. ***Sample size insufficient to permit reliable estimate. There were fewer than 62 students. !Interpret with caution - the nature of the sample does not allow accurate determination of the variability of this estimated statistic.

SOURCE: National Assessment of Educational Progress (NAEP), 1992 Reading Assessment.

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TABLE 17 | Students' Reports on the Frequency with Which They Are Provided Time for Reading Books of Their Own Choosing, Grade 4, 1992 Reading Assessment

PUBLIC SCHOOLS	Almost Every Day		At Least Once a Week		Less Than Weekly	
	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency
NATION	55 (1.5)	223 (1.3)	27 (1.1)	215 (1.7)	18 (0.8)	203 (1.4)
Northeast	55 (5.5)	229 (4.8)	27 (3.6)	216 (3.3)	18 (2.5)	211 (3.9)
Southeast	53 (2.6)	218 (3.3)	26 (1.6)	212 (2.5)	21 (1.6)	201 (3.1)
Central	57 (1.9)	224 (1.9)	28 (2.2)	220 (3.4)	15 (1.5)	203 (3.4)
West	55 (1.8)	222 (1.5)	28 (1.3)	212 (3.7)	18 (1.1)	198 (3.0)
STATES						
Alabama	43 (1.5)	213 (2.2)	32 (1.0)	208 (1.9)	25 (1.1)	203 (2.0)
Arizona	54 (1.2)	217 (1.3)	28 (1.1)	207 (2.3)	19 (0.9)	200 (2.1)
Arkansas	50 (1.7)	216 (1.9)	31 (1.2)	211 (1.9)	20 (1.1)	203 (2.0)
California	57 (1.4)	214 (2.0)	25 (1.1)	201 (2.8)	18 (0.8)	187 (3.0)
Colorado	57 (1.5)	224 (1.2)	27 (1.2)	216 (1.6)	16 (1.0)	204 (2.3)
Connecticut	54 (1.5)	229 (1.3)	27 (1.2)	223 (2.1)	19 (0.8)	211 (2.4)
Delaware*	53 (1.0)	219 (0.9)	25 (0.9)	214 (1.8)	22 (1.1)	206 (2.7)
Dist. Columbia	50 (1.0)	193 (1.2)	29 (0.8)	192 (1.6)	21 (0.9)	188 (1.6)
Florida	50 (1.5)	215 (1.4)	29 (1.0)	210 (2.1)	21 (0.9)	201 (2.2)
Georgia	55 (1.2)	220 (1.6)	29 (1.0)	211 (2.0)	16 (0.8)	202 (2.5)
Hawaii	53 (1.3)	211 (1.8)	28 (1.0)	202 (2.1)	19 (0.9)	194 (2.1)
Idaho	60 (1.7)	226 (1.1)	24 (1.1)	218 (1.5)	16 (1.0)	209 (2.4)
Indiana	52 (1.7)	225 (1.4)	29 (1.2)	222 (1.9)	18 (1.1)	217 (2.3)
Iowa	69 (1.4)	232 (1.0)	20 (1.0)	223 (1.8)	11 (0.7)	208 (2.3)
Kentucky	44 (1.9)	219 (1.6)	31 (1.1)	212 (1.8)	25 (1.5)	209 (2.1)
Louisiana	42 (1.4)	207 (1.5)	33 (1.1)	206 (1.6)	25 (1.1)	202 (1.9)
Maine*	59 (1.9)	231 (1.3)	24 (1.3)	227 (1.9)	17 (1.3)	222 (2.2)
Maryland	51 (1.5)	219 (1.7)	29 (1.2)	211 (2.2)	21 (1.1)	205 (2.3)
Massachusetts	56 (1.7)	232 (1.0)	28 (1.3)	224 (1.6)	16 (0.9)	223 (2.2)
Michigan	55 (1.4)	224 (1.8)	27 (1.1)	214 (1.4)	18 (0.9)	206 (2.9)
Minnesota	56 (1.7)	227 (1.2)	31 (1.4)	222 (1.6)	13 (0.8)	205 (2.5)
Mississippi	41 (1.6)	203 (1.7)	32 (1.2)	202 (2.0)	26 (1.2)	196 (2.1)
Missouri	59 (1.5)	227 (1.2)	25 (1.3)	219 (2.0)	15 (1.0)	207 (2.3)
Nebraska*	64 (1.7)	227 (1.3)	22 (1.2)	217 (1.7)	14 (1.2)	215 (3.1)
New Hampshire*	64 (1.6)	234 (1.2)	23 (1.3)	225 (2.0)	13 (1.2)	219 (2.2)
New Jersey*	41 (2.1)	227 (1.6)	33 (1.3)	224 (1.9)	26 (1.8)	223 (3.1)
New Mexico	47 (1.6)	215 (1.9)	32 (1.5)	212 (2.4)	21 (1.0)	210 (2.5)
New York*	54 (1.4)	220 (1.4)	27 (1.1)	215 (2.2)	19 (1.1)	209 (3.9)
North Carolina	54 (1.7)	218 (1.3)	28 (1.1)	213 (1.8)	18 (0.9)	202 (2.6)
North Dakota	57 (1.7)	231 (1.3)	27 (1.3)	227 (1.6)	16 (1.1)	217 (2.6)
Ohio	54 (1.8)	222 (1.4)	29 (1.3)	219 (2.1)	17 (1.0)	212 (2.4)
Oklahoma	51 (1.6)	225 (1.3)	31 (1.5)	222 (1.3)	18 (0.9)	215 (2.2)
Pennsylvania	54 (1.9)	226 (1.5)	29 (1.3)	220 (1.8)	17 (1.0)	215 (2.1)
Rhode Island	53 (1.7)	223 (2.0)	28 (1.2)	217 (2.2)	19 (1.1)	212 (3.2)
South Carolina	51 (1.5)	215 (1.4)	30 (1.1)	212 (1.9)	19 (1.1)	204 (2.1)
Tennessee	46 (1.4)	216 (1.7)	33 (1.3)	215 (2.0)	21 (1.0)	207 (2.1)
Texas	50 (1.9)	219 (1.8)	31 (1.5)	214 (2.0)	19 (1.0)	205 (2.2)
Utah	60 (1.5)	228 (1.2)	25 (1.2)	217 (1.7)	15 (0.9)	209 (2.4)
Virginia	54 (1.8)	226 (1.7)	29 (1.1)	220 (1.9)	17 (1.1)	217 (2.4)
West Virginia	45 (1.3)	222 (1.6)	30 (1.0)	218 (1.7)	25 (1.0)	210 (1.9)
Wisconsin	58 (1.6)	230 (1.1)	28 (1.2)	222 (1.6)	14 (0.9)	212 (2.8)
Wyoming	59 (1.5)	228 (1.3)	25 (1.1)	223 (1.7)	16 (1.1)	219 (2.1)
TERRITORY						
Guam	42 (1.0)	186 (1.9)	32 (1.2)	191 (1.7)	26 (1.0)	171 (2.7)

*Did not satisfy one or more of the guidelines for school sample participation rates (see Appendix B for details).

The standard errors of the estimated percentages and proficiencies appear in parentheses. It can be said with 95 percent certainty that for each population of interest, the value for the whole population is within plus or minus two standard errors of the estimate for the sample. In comparing two estimates, one must use the standard error of the difference (see Appendix for details). Percentages may not total 100 percent due to rounding error.

SOURCE: National Assessment of Educational Progress (NAEP), 1992 Reading Assessment.

Reading for Fun Outside Of School

The relationship between the amount of reading done outside of school and reading achievement has been well documented by NAEP and other studies. As part of the 1992 reading assessment, NAEP asked students in grades 4, 8, and 12 to report on the frequency with which they read for fun on their own time. The results are shown in TABLE 18. At all three grades, students who reported reading more frequently for fun on their own time had successively higher average reading proficiency than those who reported reading less frequently. However, 13 percent of the students at grade 4 and one-fourth of those at grades 8 and 12 reported that they never or hardly ever read for fun.

The corresponding results for fourth graders participating in the Trial State Assessment Program are presented in TABLE 19. The national pattern is clearly reflected in these data. In general, students who reported more frequent leisure reading had higher average reading proficiency. In particular, those who reported never or hardly ever engaging in such reading had significantly lower proficiency than students who reported such reading on at least a weekly basis. Across participating jurisdictions, from 9 to 17 percent of the fourth graders reported that they never read for fun.

TABLE 18 **Students' Reports on Frequency of Reading for Fun on Their Own Time, Grades 4, 8, and 12, 1992 Reading Assessment**

	Almost Every Day		Once or Twice a Week		Once or Twice a Month		Never or Hardly Ever	
	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency
Grade 4	44(0.9)	225(1.2)	32(0.8)	220(1.2)	12(0.4)	211(1.6)	13(0.5)	200(1.9)
Grade 8	22(0.5)	277(1.1)	28(0.6)	263(1.0)	25(0.5)	258(1.2)	25(0.7)	246(1.4)
Grade 12	23(0.6)	303(0.9)	28(0.7)	295(0.7)	26(0.5)	289(0.9)	24(0.6)	277(1.0)

The standard errors of the estimated percentages and proficiencies appear in parentheses. It can be said with 95 percent certainty that for each population of interest, the value for the whole population is within plus or minus two standard errors of the estimate for the sample. In comparing two estimates, one must use the standard error of the difference (see Appendix for details). Percentages may not total 100 percent due to rounding error.

SOURCE: National Assessment of Educational Progress (NAEP), 1992 Reading Assessment.

TABLE 19 | Students' Reports on Frequency of Reading for Fun on Their Own Time, Grade 4, 1992 Reading Assessment

PUBLIC SCHOOLS	Almost Every Day		Once or Twice a Week		Once or Twice a Month		Never or Hardly Ever	
	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency
NATION	43 (1.0)	223 (1.3)	32 (0.9)	218 (1.3)	12 (0.5)	209 (1.8)	13 (0.6)	199 (2.0)
Northeast	43 (2.6)	231 (4.5)	35 (2.4)	220 (3.8)	12 (1.1)	211 (5.3)	10 (1.2)	200 (4.8)
Southeast	40 (1.8)	216 (3.0)	32 (1.6)	214 (2.8)	14 (0.8)	208 (3.6)	14 (1.6)	201 (3.4)
Central	42 (1.7)	227 (1.8)	33 (1.6)	220 (2.3)	11 (0.9)	211 (3.7)	14 (1.2)	204 (3.5)
West	48 (2.2)	219 (2.0)	28 (2.0)	218 (2.2)	11 (1.0)	206 (2.9)	14 (1.0)	191 (4.0)
STATES								
Alabama	38 (1.2)	212 (2.4)	34 (1.1)	210 (1.9)	12 (0.7)	205 (2.6)	16 (0.7)	197 (2.2)
Arizona	40 (1.1)	217 (1.4)	33 (1.0)	211 (1.7)	11 (0.7)	203 (2.3)	16 (0.9)	199 (2.1)
Arkansas	39 (1.2)	217 (1.9)	34 (1.0)	213 (1.3)	12 (0.8)	206 (2.7)	16 (0.8)	199 (2.1)
California	45 (1.1)	212 (2.2)	32 (1.0)	200 (2.5)	11 (0.7)	196 (3.2)	12 (0.8)	190 (3.3)
Colorado	44 (1.0)	225 (1.3)	34 (0.9)	216 (1.4)	11 (0.6)	215 (2.2)	11 (0.6)	202 (1.9)
Connecticut	46 (1.1)	230 (1.7)	32 (0.8)	220 (1.6)	12 (0.7)	219 (2.5)	11 (0.6)	207 (2.7)
Delaware*	41 (1.2)	220 (1.4)	33 (1.1)	215 (1.6)	11 (0.8)	210 (2.7)	14 (0.8)	197 (2.1)
Dist. Columbia	44 (1.0)	192 (1.2)	37 (0.9)	190 (1.2)	9 (0.6)	184 (2.9)	10 (0.7)	178 (2.8)
Florida	38 (1.2)	214 (1.6)	34 (1.1)	212 (1.9)	13 (0.7)	206 (2.0)	15 (0.9)	195 (2.3)
Georgia	44 (1.4)	219 (1.9)	32 (1.0)	215 (1.8)	11 (0.7)	206 (2.9)	13 (0.7)	198 (2.4)
Hawaii	42 (1.2)	210 (2.0)	35 (1.1)	203 (2.0)	11 (0.7)	202 (2.9)	12 (0.6)	192 (2.7)
Idaho	45 (1.2)	226 (1.3)	31 (0.8)	220 (1.1)	11 (0.8)	217 (1.9)	13 (0.7)	205 (2.4)
Indiana	41 (1.3)	229 (1.7)	32 (1.1)	222 (1.3)	14 (0.6)	221 (2.3)	14 (0.7)	206 (2.1)
Iowa	50 (1.2)	233 (1.3)	30 (1.0)	225 (1.3)	10 (0.6)	218 (2.0)	10 (0.7)	210 (2.1)
Kentucky	38 (1.1)	219 (1.9)	33 (0.9)	215 (1.4)	13 (0.8)	214 (2.9)	17 (0.8)	201 (2.0)
Louisiana	38 (1.1)	208 (1.4)	35 (0.9)	206 (1.5)	11 (0.6)	206 (2.3)	15 (0.9)	194 (2.5)
Maine*	43 (1.5)	234 (1.4)	33 (1.2)	227 (1.3)	12 (0.7)	224 (1.9)	11 (1.0)	213 (2.1)
Maryland	42 (1.1)	221 (1.9)	35 (1.0)	211 (1.7)	12 (0.6)	207 (2.5)	11 (0.7)	194 (3.3)
Massachusetts	46 (1.2)	234 (1.2)	34 (1.1)	225 (1.0)	12 (0.7)	223 (2.4)	9 (0.7)	211 (2.2)
Michigan	44 (1.2)	224 (1.9)	34 (1.1)	216 (1.6)	12 (0.7)	209 (2.4)	10 (0.6)	207 (3.0)
Minnesota	47 (1.3)	230 (1.2)	33 (1.1)	221 (1.5)	10 (0.6)	212 (2.9)	10 (0.8)	204 (2.7)
Mississippi	41 (1.1)	202 (1.7)	32 (0.9)	202 (2.0)	10 (0.6)	200 (2.5)	17 (1.0)	192 (2.3)
Missouri	43 (1.0)	227 (1.7)	32 (0.9)	222 (1.5)	11 (0.7)	220 (2.6)	13 (0.8)	205 (1.9)
Nebraska*	45 (1.1)	228 (1.5)	32 (0.9)	223 (1.4)	11 (0.8)	221 (2.1)	12 (0.8)	203 (2.7)
New Hampshire*	48 (1.6)	236 (1.2)	31 (1.2)	228 (1.5)	11 (0.7)	224 (2.6)	10 (0.8)	210 (2.6)
New Jersey*	39 (1.4)	232 (1.8)	36 (0.9)	225 (1.6)	14 (0.8)	220 (2.0)	11 (1.0)	203 (2.9)
New Mexico	41 (1.5)	218 (1.6)	33 (1.0)	212 (2.4)	11 (0.6)	214 (2.8)	15 (0.8)	194 (2.8)
New York*	44 (1.1)	221 (1.9)	34 (1.0)	216 (1.7)	13 (0.8)	214 (1.9)	10 (0.6)	201 (3.3)
North Carolina	46 (1.3)	219 (1.5)	31 (1.0)	212 (1.4)	10 (0.6)	207 (3.2)	13 (0.7)	198 (2.5)
North Dakota	43 (1.3)	234 (1.4)	33 (1.0)	226 (1.3)	13 (0.7)	222 (2.2)	11 (0.8)	212 (2.5)
Ohio	41 (1.2)	226 (1.6)	35 (1.0)	217 (1.7)	12 (0.7)	214 (2.6)	12 (0.7)	204 (2.8)
Oklahoma	40 (1.1)	225 (1.3)	32 (1.0)	225 (1.9)	12 (0.7)	221 (2.1)	16 (0.9)	207 (2.0)
Pennsylvania	43 (1.0)	227 (1.8)	35 (1.0)	221 (1.3)	12 (0.6)	221 (2.5)	9 (0.6)	206 (3.0)
Rhode Island	47 (1.3)	223 (2.4)	32 (1.1)	217 (1.7)	11 (0.8)	216 (2.7)	10 (0.7)	197 (3.3)
South Carolina	42 (1.1)	216 (1.7)	34 (0.9)	211 (1.6)	11 (0.6)	210 (2.6)	14 (0.8)	196 (2.0)
Tennessee	38 (1.1)	219 (1.9)	37 (1.1)	213 (1.7)	13 (0.8)	208 (2.8)	12 (0.9)	201 (2.5)
Texas	43 (1.1)	218 (2.0)	32 (1.1)	215 (1.7)	10 (0.6)	212 (2.6)	15 (0.9)	202 (2.0)
Utah	46 (1.1)	228 (1.4)	30 (0.7)	222 (1.5)	10 (0.7)	214 (2.2)	13 (0.7)	207 (2.1)
Virginia	46 (1.2)	228 (1.6)	31 (1.0)	223 (1.9)	12 (0.7)	216 (2.4)	11 (0.8)	204 (2.3)
West Virginia	38 (1.1)	224 (1.9)	35 (1.0)	218 (1.5)	12 (0.7)	212 (2.1)	16 (0.9)	201 (1.9)
Wisconsin	46 (1.1)	233 (1.3)	34 (1.0)	222 (1.4)	10 (0.6)	217 (2.4)	10 (0.5)	206 (2.8)
Wyoming	49 (1.1)	230 (1.1)	30 (0.9)	224 (1.8)	9 (0.6)	217 (2.0)	12 (0.6)	207 (2.1)
TERRITORY								
Guam	39 (1.0)	187 (1.8)	35 (1.0)	186 (1.7)	10 (0.6)	175 (3.2)	16 (0.8)	174 (3.4)

*Did not satisfy one or more of the guidelines for school sample participation rates (see Appendix B for details).

The standard errors of the estimated percentages and proficiencies appear in parentheses. It can be said with 95 percent certainty that for each population of interest, the value for the whole population is within plus or minus two standard errors of the estimate for the sample. In comparing two estimates, one must use the standard error of the difference (see Appendix for details). Percentages may not total 100 percent due to rounding error.

SOURCE: National Assessment of Educational Progress (NAEP), 1992 Reading Assessment.

Chapter One

NAEP's 1992 Reading Assessment and Achievement Levels

Overview

The National Assessment of Educational Progress (NAEP) is a Congressionally mandated survey of the educational achievement of American students. This report contains results from NAEP's 1992 reading assessment of nationally representative samples of public- and private-school students in grades 4, 8, and 12. It also presents state-level results for representative samples of public-school students in grade 4 for jurisdictions that participated in NAEP's 1992 Trial State Assessment Program in reading. Data were collected in 43 jurisdictions, with 41 states, two territories, and the District of Columbia participating.

The participants included:

Alabama
Arizona
Arkansas
California
Colorado
Connecticut
Delaware
District of Columbia
Florida
Georgia
Hawaii
Idaho
Indiana
Iowa
Kentucky
Louisiana
Maine
Maryland
Massachusetts
Michigan
Minnesota
Mississippi
Missouri
Nebraska
New Hampshire
New Jersey
New Mexico
New York
North Carolina
North Dakota
Ohio
Oklahoma
Pennsylvania
Rhode Island
South Carolina
Tennessee
Texas
Utah
Virginia
West Virginia
Wisconsin
Wyoming

Guam
Virgin Islands*

* The Virgin Islands participated in the testing portion of the 1992 Trial State assessment Program. However, in accordance with the legislation providing for participants to review and give permission for release of their results, the Virgin Islands chose not to release their results at grade 4 in the national composite report.

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NAEP's 1992 reading assessment represents a wholly new, innovative effort designed to provide the best baseline information possible for the national and trial state assessments in reading.

- It is based on a framework newly developed for 1992 that focuses on performance outcomes, while accounting for contemporary research on reading and literacy. Reading is viewed as a purpose driven activity, involving a dynamic interaction among the reader, the text, and the context for reading.

- The assessment itself expands the range of assessment tools to include an emphasis on questions where students are asked to read longer, naturally occurring materials that provide a more realistic reading experience and to construct their own written responses. Also, special studies (i.e., interviews of fourth graders and selection of reading materials for eighth and twelfth graders) have been conducted to complement the main assessment results.[5]

- The analysis summarizing the 1992 results on the 0 to 500 NAEP reading scale rests on state-of-the-art techniques, including partial-credit model scaling to account for the varying degrees of success students displayed when responding to constructed-response questions.

Also, this reading report marks NCES's continued attempt to shift to standards-based reporting of NAEP statistics. The transition is being made now to report NAEP results by three achievement levels: Basic, Proficient, and Advanced. The achievement levels attempt to describe what students *should be able to do* in various ranges of the NAEP scale, while a scale anchoring procedure implemented in conjunction with the achievement levels attempts to describe what they *can do* at those achievement levels using actual student performance data from the NAEP assessments.

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[5] The findings from the special studies will be topics in future reports about NAEP's 1992 reading assessment.

Because NAEP's 1992 reading assessment does represent an entirely new effort making it very different from prior reading assessments, comparisons with results from any previous reading assessments are precluded.[6] The results contained herein should not be compared to the results from 1990 or earlier NAEP reading assessments.

The Reading Framework

The *NAEP Reading Framework* underlying the 1992 assessment was newly developed specifically for this assessment including the Trial State Assessment Program. To ensure a forward-looking conceptualization of reading that was responsive to needs of policymakers and educators and that accounted for contemporary research on reading and literacy, a national consensus process was used to develop the framework. The consensus process, which was managed by the Council of Chief State School Officers (CCSSO) under the direction of the National Assessment Governing Board (NAGB), involved a 16-member Steering Committee representing national organizations and a 15-member Planning Committee of reading experts, including educators, researchers, and curriculum specialists.[7] The CCSSO project staff continually sought guidance and reaction from a wide range of individuals in the fields of reading and assessment.

The *NAEP Reading Framework* consists of major purposes for reading and, as a cross-cutting dimension, the interactions that readers have with text as they construct, extend, and examine meaning. The purposes include reading for **literary experience**, to **gain information**, and to **perform a task**, although the latter was not assessed at grade 4. The interactions or reading stances include forming an **initial understanding**, **developing an interpretation**, **personal reflection and response**, and demonstrating a **critical stance**. Throughout the development and the conduct of the 1992 assessment, reading has been defined as a dynamic, interactive, and constructive process, whereby the reader relates her or his knowledge and experiences to the text and to the situation in order to construct appropriate understandings of what is read.

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[6] NAEP will continue to report trends in reading proficiency as compared to the past 20 years by readministering the long-term reading trend assessment (see *The NAEP Guide: A Description of the Content and Methods of the 1990 and 1992 Assessments*). Long-term educational achievement trends in reading, as well as those in mathematics, science, and writing will be the topic of a subsequent NAEP report of 1992 results.

[7] *Reading Framework for the 1992 National Assessment of Educational Progress* (Washington, DC: National Assessment Governing Board, U.S. Department of Education, Government Printing Office)

The reading passages included in the assessment consisted of a wide variety of intact texts, reproduced as faithfully as possible from their original sources. Literary texts included short stories, poems, fables, historical fiction, science fiction, and mysteries. Informational passages included biographies, science articles, encyclopedia entries, primary and secondary historical accounts, and newspaper editorials. For both literary and informational reading, some students were given two passages from different genres (e.g., poem and story, or journal and encyclopedia entry). Documents used in assessing ability to perform a task at grades 8 and 12 included directions for creating a time capsule, instructions on how to write a letter to a senator, a bus schedule, and a tax form.

A combination of constructed-response and multiple-choice questions was used as determined by the nature of the reading tasks associated with each passage. From 60 to 70 percent of the students' response time was devoted to constructed-response questions, to better measure the processes readers use. Those participating in the consensus process to develop the *NAEP Reading Framework* and item specifications felt that using constructed-response questions for NAEP would:

1) provide a means of examining whether students can generate their own organized and carefully thought out responses to what they have read,

2) more closely resemble the real-world reading tasks that students must be able to perform to be successful in and out of school, and

3) contribute to the important trend toward using more constructed-response questions seen in a number of other assessment programs including those in several states.[8]

The constructed-response questions were of two types, regular and extended. The regular constructed-response questions required answers from a few words to a few sentences and were evaluated as either satisfactory or unsatisfactory. The extended questions required responses of a paragraph or more, and were evaluated according to a four-point scale ranging from unsatisfactory to extensive. Each passage was accompanied by at least one extended question. Examples of constructed-response questions are provided in Appendix A.

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[8] *Reading Framework for the 1992 National Assessment of Educational Progress* (Washington, DC: National Assessment Governing Board, U.S. Department of Education, U.S. Government Printing Office).

Across the assessment, about 40 percent of the questions assessed *initial understanding* and *developing an interpretation*, where students were asked either to describe their global understanding of what they had read or to extend their initial understanding to demonstrate a more in-depth understanding. Initial understanding included global summaries, main points, or themes. Developing an interpretation included making connections between cause and effect, analyzing the motives of characters, and drawing conclusions. These questions required moving beyond the text, connecting information across parts of the text, or sometimes integrating information across texts. About one-fourth of the questions required students to engage in *personal reflection* and connect knowledge from the text with their own personal background knowledge. This included comparing story characters with themselves or people they knew, for example, or indicating whether they found a passage useful or interesting. The remaining one-third of the questions assessed students' ability to take a *critical stance*, where they were asked to stand apart from the text and consider it objectively (e.g., critical evaluation, understanding text features, identifying stylistic devices such as mood and tone, and judging point of view).

These stances are not considered hierarchical or completely independent of each other, but are iterative. All students should be able to respond to reading selections from these various orientations. What varies with students' developmental and achievement levels is the amount of prompting or support needed to generate a response, the complexity of the texts to which they can respond, and the sophistication of their answers.

To supplement the achievement results, students, teachers, and school administrators were asked to complete questionnaires about their backgrounds and instructional practices in reading. Students completed questionnaires about demographics and home contexts for learning as well as about reading instructional activities and experiences in their schools. For the fourth-grade students participating in both the national and state assessments, the teachers responsible for their reading instruction answered questionnaires about instructional content and practices as well as about their background and school conditions. Because the sampling for teacher questionnaires was based on participating *students*, the responses do not necessarily represent all fourth-grade teachers in the nation, or in a state or territory. Rather, they represent instruction for the representative sample of students assessed. The school questionnaires, completed by the principals of participating schools, contained questions about school policies and resources. Three different school questionnaires were used, one for each grade assessed. All data collected for the NAEP project is confidential. No participant's name, whether student, teacher, or school administrator, leaves the school. Data for participants are identified only by booklet or questionnaire identification numbers.

The NAEP background questionnaires make it possible to examine the relationships between student proficiency and a wide variety of background factors, relating performance to one or several variables at a time. The selection of background questions included in the NAEP assessments is guided by the wide body of available research about factors influencing student learning. Thus, the NAEP survey results often help to confirm our understanding of how school and home factors relate to achievement. Although the effects of schooling are of prime concern, these analyses do not reveal the underlying causes of the relationships between background factors and performance. Therefore, the NAEP assessment results are most useful when they are considered in light of other knowledge about the educational system, such as trends in instructional reform and changes in the school-age population and societal demands and expectations.

The content area questions and background questionnaires were developed by staff and consultants at Educational Testing Service (ETS), which conducted the work under contract with NCES. The work was completed with the guidance of panels of distinguished educators, reading experts, and researchers, and in accordance with the *ETS Standards for Quality and Fairness*.[9] Subsequent to rigorous internal review, the NAEP materials were further reviewed by NCES, NAGB, and the federal Office of Management and Budget. All materials used in the trial state assessments were reviewed by state agency personnel (both reading and assessment experts).

For both the reading assessment questions and background questionnaires, the identical assessment instruments were used in the national and trial state assessments at the fourth grade. The exception was a special study involving interviews of a subsample of fourth graders, which was conducted only as part of the national study. Called the Integrated Reading Performance Record (IRPR), this study involved asking a subset of the fourth graders to read aloud, share examples of their written classroom work, and answer questions about their reading habits and classroom instruction in reading. The interviews were tape-recorded so that both the students' responses and the examples of classroom work could be subjected to further analysis. In a second special study, eighth and twelfth graders were given a booklet of short stories, "The NAEP Reader," and asked to select a story to read and then answer questions about it. The results of both special studies will be presented in subsequent NAEP reports.

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[9] *ETS Standards for Quality and Fairness* (Princeton, NJ: Educational Testing Service, 1987).

The Conduct of the 1992 Reading Assessment

As with all NAEP assessments, the schools and students participating in the 1992 reading assessment were selected through scientifically designed stratified random sampling procedures. Approximately 26,000 fourth, eighth, and twelfth graders in 1,500 public and private schools across the country participated in the national assessment. For each jurisdiction participating in the Trial State Assessment Program, separate state-representative samples of fourth graders were assessed, involving approximately 2,500 students sampled from approximately 100 public schools. Thus, NAEP's Trial State Assessment Program in reading involved approximately 110,000 students.

All NAEP data are collected by trained administrators. Data for the national assessment were collected by a field staff managed by the ETS subcontractor, Westat, Inc. However, in accordance with the NAEP legislation, data collection for the Trial State Assessment Program was the responsibility of each participating jurisdiction. Uniformity of procedures across states was achieved through training and quality control monitoring by Westat, Inc. Quality control was provided by unannounced, random monitoring of half the sessions in each state. The results of the monitoring indicated a high degree of quality and uniformity across sessions.

The participation rates for the nation and the states as well as the four guidelines for interpreting these rates are found in Appendix B. Unless the overall participation rate is high for a state or territory, there is a risk that the assessment results for the jurisdiction are subject to appreciable nonresponse bias. Moreover, even if the overall participation rate is high, there may be significant nonresponse bias if the nonparticipation that does occur is heavily concentrated among certain classes of schools or students. It should be noted that several states did not satisfy the one or more guidelines for participation rates. Further analyses, documented in the *Technical Report of the 1992 Trial State Assessment in Reading*, suggest that nonresponse bias due to varying participation rates was either non-existent or quite small. Nevertheless, Maine, Nebraska, New Hampshire, New Jersey, and New York did not meet the guideline for overall school participation rates. Additionally, these five states and Delaware did not meet the guideline for sample representation across different classes of schools.

Therefore, these six states are designated with asterisks in the tables and figures containing state-by-state results. All the jurisdictions reported herein met the remaining two parallel guidelines for student participation, both the one for overall participation and the one for specific subgroups of students.

The assessment booklets, including the approximately two million written responses constructed by students, were scored by a second ETS subcontractor, National Computer Systems. The constructed-response questions were scored by professional readers who had experience in education. These readers were thoroughly trained to use scoring guides developed by the NAEP Reading Test Development Committee and ETS staff. Each answer to the regular constructed-response questions was scored either as unsatisfactory or satisfactory. Responses to the extended questions were evaluated according to a four-point scale as unsatisfactory, partial, essential, or extensive. To determine the reliability of the scoring, 25 percent of the students' responses to each question were evaluated by two different scorers. For the nation, the percentage of exact agreement between scorers, averaged across questions, was approximately 89 percent for grade 4, 86 percent for grade 8, and 88 percent for grade 12. For the Trial State Assessment Program at grade 4, the percentage of exact agreement, averaged across all questions for all states and territories, was approximately 91 percent.

The assessment results were analyzed by ETS to determine the percentage of students responding correctly to each multiple-choice or regular constructed-response question and the percentage of students responding in each of the four categories for the extended constructed-response questions. Item response theory (IRT) methods were used to summarize results for each of the reading purposes in the framework (two purposes at grade 4 -- literary and informational -- as well as the third -- to perform a task -- at grades 8 and 12). New for the 1992 NAEP assessment, a partial-credit scaling procedure employing a specialized IRT method was used to account for students' responses scored according to the 4-point scoring guides used with the extended-response questions. An overall composite scale was developed by weighting each content area according to its importance in the framework (see Appendix B for details). Average proficiency and levels of achievement on the composite scale, which ranges from 0 to 500, are the statistics primarily used in this report to compare overall reading performance across grades and to compare states to each other and the nation. Unless otherwise noted, all changes or differences discussed in this report are statistically significant at the .05 level of significance. This means that the observed differences are unlikely to be due to chance or to sampling variability. These "confidence intervals" are described in greater depth in Appendix B.

Throughout the development and conduct of the assessment, NCES and its contractors worked closely with the Trial State Assessment NETWORK, which includes representatives from all interested states. Federal funding permitted regular NETWORK meetings, where state education personnel met with staff members from NCES, the contractors, NAGB, and CCSSO to review NAEP materials, plans, procedures, and data.

The NAEP Achievement Levels

Although average proficiency on the NAEP scale provides an overall depiction of students' reading achievement and an efficient way to make comparisons across groups, these figures do not provide information about whether students are meeting standards or what types of reading skills they demonstrated as part of the assessment. Since 1984, when NAEP shifted from only reporting results based on percentages correct to also providing information summarized on scales, an anchoring procedure has been used to help describe performance associated with regular intervals on the scales.[10] As implemented in previous NAEP reports, the scale anchoring procedure provided empirically-based descriptions of the types of reading skills and strategies displayed by students at 150, 200, 250, 300, and 350 (essentially standard deviation units). The anchoring information described gains in student performance from one level to the next, but not whether this performance was adequate.

This *1992 NAEP Reading Report Card* marks a continuation of the attempt by NAGB and NCES to shift to standards-based reporting for NAEP. For reading, a transition is being made with the 1992 assessment to report NAEP results by achievement levels that describe how much students *should* know. The impetus for this shift lies in the belief that NAEP data will take on more meaning for the public if they show what proportion of our youth are able to meet standards of performance necessary for a changing world.

Because the process of setting NAEP achievement levels centers on the descriptions of what students *should* be able to do, it is important also to examine whether students actually meet those expectations for performance. For the 1992 reading assessment, a modified anchoring process was used to examine actual student performance at the achievement levels and describe what they *can* do as demonstrated by their assessment responses. NCES realizes that modifications and improvements may be necessary in the future as current achievement-level procedures are evaluated[11] and new approaches to standards-based reporting are developed by the various parties involved in systemic education reform.

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[10] For a discussion of various ways NAEP data have been reported, see: Gary W. Phillips, et al., *Interpreting NAEP Scales* (Washington, DC: National Center for Education Statistics, 1993).

As part of its statutory responsibilities, the National Assessment Governing Board (NAGB) established three achievement levels for reporting NAEP results: Basic, Proficient, and Advanced. The Basic level denotes partial mastery of the knowledge and skills fundamental for proficient work at each grade, but is not considered satisfactory. Proficient, the central level, represents solid academic performance and demonstrated competence over challenging subject matter. This is the achievement level NAGB has determined all students should reach. The Advanced level signifies superior performance beyond Proficient. Full definitions of these levels are presented below.

Policy Definitions of Achievement Levels

Basic. This level, below proficient, denotes partial mastery of knowledge and skills that are fundamental for proficient work at each grade -- 4, 8, and 12. For 12th grade, this is higher than minimum competency skills (which normally are taught in elementary and junior high schools) and covers significant elements of standard high-school-level work.

Proficient. This central level represents solid academic performance for each grade tested -- 4, 8, and 12. It reflects a consensus that students reaching this level have demonstrated competency over challenging subject matter and are well prepared for the next level of schooling. At grade 12, the proficient level encompasses a body of subject-matter knowledge and analytical skills, of cultural literacy and insight, that all high school graduates should have for democratic citizenship, responsible adulthood, and productive work.

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[11] *Setting Achievement Levels for the Nation*, The Second Report of the National Academy of Education Panel on the Evaluation of the NAEP Trial State Assessment (1992 Trial State Assessment). (Stanford, CA: National Academy of Education, 1993).

Education Achievement Standards, NAGB's Approach Yields Misleading Interpretations. United States General Accounting Office Report to Congressional Requestors (Washington, DC: United States General Accounting Office, June 1993) GAO/PEMD-93-12 Educational Achievement Standards.

Assessing Student Achievement in the States, The First Report of the National Academy of Education Panel on the Evaluation of the NAEP Trial State Assessment (1990 Trial State Assessment). (Stanford, CA: National Academy of Education, 1992).

Robert L. Linn, Daniel M. Koretz, Eva L. Baker, and Leigh Burstein, *The Validity and Credibility of the Achievement Levels for the 1990 National Assessment of Educational Progress in Mathematics*, Technical Report CSE No. 330 (Los Angeles, CA: Center for Research on Evaluation, Standards, and Student Testing, UCLA, 1991).

Advanced. **This higher level signifies superior performance beyond proficient grade-level mastery at grades 4, 8, and 12. For 12th grade, the advanced level shows readiness for rigorous college courses, advanced technical training, or employment requiring advanced academic achievement. As data become available, it may be based in part on international comparisons of academic achievement and may also be related to Advanced Placement and other college placement exams.**

Setting the Reading Achievement Levels

To carry out the task of applying the achievement levels to the 1992 reading assessment, NAGB contracted with American College Testing to undertake advisory and analytic functions that could assist the Board in forming its conclusions as to appropriate achievement levels. As part of the process of setting achievement levels, a broadly constituted panel of judges operationalized the NAGB standards in terms of specific reading skills, knowledge, and behaviors that were judged to be appropriate expectations for students in each grade, and were in accordance with the reading assessment framework. The judges rated each multiple-choice and regular short-answer question in the 1992 assessment in terms of the expected probability of answering the question correctly at each achievement level, based on the policy definitions and the factors that influence item difficulty. For extended constructed-response questions, judges were asked to select student papers which exemplified performance at the cutpoint of each achievement level. To assist the judges in generating consistently-scaled ratings, three rounds of ratings were conducted and the average final rating was aggregated across items to yield the thresholds for the achievement levels. For each achievement level, example questions were selected that would best communicate to the public the reading abilities and skills needed to perform at that level.

Subsequently, as part of the validation process, the operationalized descriptions were refined by the judges and consultants, and the example items were thoroughly reviewed. As part of the analysis process, the aggregate ratings were mapped onto the 0 to 500 NAEP scale to obtain the achievement level cutpoints. FIGURES 1.1 through 1.3 show the full text for the descriptions of the three achievement levels developed for each of grades 4, 8, and 12, and the scale-score cutpoints for each level.

Following the operational definitions, each achievement level at each grade is supported by examples of assessment questions.[12] The full text of the passages can be found in Appendix D. The example questions displayed in this chapter were selected to be illustrative of the content found in the *NAEP Reading Framework*, and were judged to be generally representative of the achievement levels descriptions. Two types of percentages are presented with each question.

- The overall percent correct shows the percentage of students across the country who answered the question correctly or acceptably.
- The conditional percentage of success on each question for the achievement level shows, of the students who performed in the interval between the achievement level and the next highest achievement level, what percentage of those students were successful in answering the question.

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[12] American College Testing Program, *Description of Reading Achievement Levels-Setting Process and Proposed Achievement Level Definitions*, October 2, 1992.

FIGURE 1.1 Description of Reading Achievement Levels for Basic, Proficient, and Advanced Fourth Graders

The two purposes for reading assessed as a part of the NAEP reading assessment at grade 4 are reading for literary experience and reading to gain information. Achievement levels are cumulative from Basic to Proficient to Advanced. One level builds on the previous levels such that knowledge at the Proficient level presumes mastery of the Basic level, and knowledge at the Advanced level presumes mastery at both the Basic and Proficient levels.

BASIC LEVEL (212)	Fourth-grade students performing at the **Basic level** *should demonstrate an understanding of the overall meaning of what they read.* When reading text appropriate for 4th graders, *they should be able to make relatively obvious connections between the text and their own experiences.*

For example, when reading **literary text**, they should be able to tell what the story is generally about -- providing details to support their understanding -- and be able to connect aspects of the stories to their own experiences.

When reading **informational text**, Basic-level 4th graders should be able to tell what the selection is generally about or identify the purpose for reading it; provide details to support their understanding; and connect ideas from the text to their background knowledge and experiences.

PROFICIENT LEVEL (243)	Fourth-grade students performing at the **Proficient level** *should be able to demonstrate an overall understanding of the text, providing inferential as well as literal information.* When reading text appropriate to 4th grade, *they should be able to extend the ideas in the text by making inferences, drawing conclusions, and making connections to their own experiences. The connection between the text and what the student infers should be clear.*

For example, when reading **literary text**, Proficient-level 4th graders should be able to summarize the story, draw conclusions about the characters or plot, and recognize relationships such as cause and effect.

When reading **informational text**, Proficient-level students should be able to summarize the information and identify the author's intent or purpose. They should be able to draw reasonable conclusions from the text, recognize relationships such as cause and effect or similarities and differences, and identify the meaning of the selection's key concepts.

ADVANCED LEVEL (275)	Fourth-grade students performing at the **Advanced level** *should be able to generalize about topics in the reading selection and demonstrate an awareness of how authors compose and use literary devices.* When reading text appropriate to 4th grade, *they should be able to judge texts critically and, in general, give thorough answers that indicate careful thought.*

For example, when reading **literary text**, Advanced-level students should be able to make generalizations about the point of the story and extend its meaning by integrating personal experiences and other readings with the ideas suggested by the text. They should be able to identify literary devices such as figurative language.

When reading **informational text**, advanced-level 4th graders should be able to explain the author's intent by using supporting material from the text. They should be able to make critical judgments of the form and content of the text and explain their judgments clearly.

Grade 4 Basic: Example 1 *Sybil Sounds the Alarm*

[This passage is a fictional account of an historical event that describes the courage of a young colonial girl in riding her horse to warn of the approaching British army.]

Sybil's father thought that she

A was obedient but forgetful
→ **B** was courageous and a good rider
C could lead the troops against the British
D could easily become angry

Overall Percentage Correct*: **71 (1.4)**

Conditional Percentage Basic Interval*: **76 (2.5)**

Grade 4 Basic: Example 2 *Sybil Sounds the Alarm*

[This passage is a fictional account of an historical event that describes the courage of a young colonial girl in riding her horse to warn of the approaching British army.]

If you had just finished a ride like Sybil's, how would you feel and why?

Acceptable responses provided a personal reaction accompanied by a brief explanation or justification that reflected consideration of Sybil's experience.

Overall Percentage Acceptable*: **64 (2.0)**

Conditional Percentage Basic Interval*: **76 (2.9)**

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*The standard errors of the estimated percentages appear in the parentheses.

Grade 4 Basic: Example 3 *Amanda Clement: The Umpire in a Skirt*

[This passage is an informative article about how Amanda Clement became the first paid woman umpire on record.]

Write a paragraph explaining how Mandy got her first chance to be an umpire at a public game.

Acceptable answers indicated that the umpire for a preliminary game between two local teams did not show up for the game and/or Mandy's brother suggested that she do the job.

Overall Percentage Correct*: **66 (1.6)**

Conditional Percentage Basic Interval*: **78 (2.7)**

Grade 4 Basic: Example 4 *Amanda Clement: The Umpire in a Skirt*

[This passage is an informative article about how Amanda Clement became the first paid woman umpire on record.]

Which event came first in Mandy's career?

A Mandy was paid to umpire a game.
B Mandy was recognized in the Baseball Hall of Fame.
C Mandy became a teacher and a coach.
→ D Mandy umpired games for her brother and his friends.

Overall Percentage Correct*: **68 (1.4)**

Conditional Percentage Basic Interval*: **77 (2.7)**

---

*The standard errors of the estimated percentages appear in the parentheses.

Grade 4 Proficient: Example 1 *Sybil Sounds the Alarm*

[This passage is a fictional account of an historical event that describes the courage of a young colonial girl in riding her horse to warn of the approaching British army.]

Could a similar story take place today? Tell why or why not.

Acceptable answers stated an opinion and provided an explanation that demonstrates understanding of the historical context of the story.

Overall Percentage Correct*: **27 (1.3)**

Conditional Percentage Proficient Interval*: **56 (3.5)**

Grade 4 Proficient: Example 2 *Sybil Sounds the Alarm*

[This passage is a fictional account of an historical event that describes the courage of a young colonial girl in riding her horse to warn of the approaching British army.]

The information about the statue and stamp helps to show that

→ **A** people today continue to recognize and respect Sybil's bravery
B people were surprised that George Washington honored her
C the author included minor details
D heroes are honored more now than they were then

Overall Percentage Correct*: **62 (1.5)**

Conditional Percentage Proficient Interval*: **90 (3.0)**

---

*The standard errors of the estimated percentages appear in the parentheses.

Grade 4 Advanced: Example 1

Sybil Sounds the Alarm

[This passage is a fictional account of an historical event that describes the courage of a young colonial girl in riding her horse to warn of the approaching British army.]

How does the author show the excitement and danger of Sybil's ride?

Acceptable answers discussed how the author described the danger of the ride by showing how Sybil's parents were concerned, or how Sybil felt during the ride and immediately afterward.

Overall Percentage Correct*: **44 (1.7)**

Conditional Percentage
Advanced Interval*: **84 (5.6)**

Grade 4 Advanced: Example 2

Sybil Sounds the Alarm

[This passage is a fictional account of an historical event that describes the courage of a young colonial girl in riding her horse to warn of the approaching British army.]

Why do you think the author called this story "Sybil Sounds the Alarm"? Use what you learned in the passage to support your answer.

Acceptable answers indicated that the title reveals that the story is about a girl, Sybil, who warned people of a British invasion during the Revolutionary War. Answers that focused on the word "sounds" needed to include appropriate speculations about language usage.

Overall Percentage Correct*: **37 (1.9)**

Conditional Percentage
Advanced Interval*: **87 (4.2)**

---

*The standard errors of the estimated percentages appear in the parentheses.

Grade 4 Advanced: Example 3 *Amanda Clement: The Umpire in a Skirt*

[This passage is an informative article about how Amanda Clement became the first paid woman umpire on record.]

Give three examples showing that Mandy was not a quitter.

Acceptable answers mentioned three events from the passage that reflect positively on Amanda and that demonstrate some determination in her character.

Overall Percentage Correct*: **43 (1.9)**

Conditional Percentage Advanced Interval*: **86 (6.6)**

Grade 4 Advanced: Example 4 *Amanda Clement: The Umpire in a Skirt*

[This passage is an informative article about how Amanda Clement became the first paid woman umpire on record.]

The information in the passage is presented mainly by

A comparing Mandy to other umpires
→ B discussing important events in Mandy's life
C describing the game of baseball
D providing details about life in the early 1900s

Overall Percentage Correct*: **49 (1.5)**

Conditional Percentage Advanced Interval*: **83 (9.5)**

---

*The standard errors of the estimated percentages appear in the parentheses.

Grade 4 Advanced: Example 5 *Amanda Clement: The Umpire in a Skirt*

[This passage is an informative article about how Amanda Clement became the first paid woman umpire on record.]

What was Hank's role in Mandy's early career?

Acceptable responses discussed the fact that Hank let Mandy play ball and umpire or that he recommended her for the umpire position.

Overall Percentage Correct*: **42 (2.0)**	Conditional Percentage Advanced Interval*: **88 (5.6)**

---

*The standard errors of the estimated percentages appear in the parentheses.

FIGURE 1.2 Description of Reading Achievement Levels for Basic, Proficient, and Advanced Eighth Graders

The three purposes for reading assessed as a part of the NAEP reading assessment at grade 8 are reading for literary experience, reading to gain information, and reading to perform a task. Achievement levels are cumulative from Basic to Proficient to Advanced. One level builds on the previous levels such that knowledge at the Proficient level presumes mastery of the Basic level, and knowledge at the Advanced level presumes mastery at both the Basic and Proficient levels.

BASIC LEVEL (244)	Eighth-grade students performing at the **Basic level** *should demonstrate a literal understanding of what they read and be able to make some interpretations.* When reading text appropriate to 8th grade, *they should be able to identify specific aspects of the text that reflect the overall meaning, recognize and relate interpretations and connections among ideas in the text to personal experience, and draw conclusions based on the text.*

For example, when reading **literary text**, Basic-level 8th graders should be able to identify themes and make inferences and logical prediction about aspects such as plot and characters.

When reading **informative text**, they should be able to identify the main idea and the author's purpose. They should make inferences and draw conclusions supported by information in the text. They should recognize the relationships among the facts, ideas, events, and concepts of the text (e.g., cause and effect order).

When reading **practical text**, they should be able to identify the main purpose and make predictions about the relatively obvious outcomes of procedures in the text.

PROFICIENT LEVEL (283)	Eighth-grade students performing at the **Proficient level** *should be able to show an overall understanding of the text, including inferential as well as literal information.* When reading text appropriate to 8th grade, *they should extend the ideas in the text by making clear inferences from it, by drawing conclusions, and by making connections to their own experiences -- including other reading experience.* Proficient 8th graders *should be able to identify some of the devices authors use in composing text.*

For example, when reading **literary text**, students at the Proficient level should be able to give details and examples to support themes that they identify. They should be able to use implied as well as explicit information in articulating themes; to interpret the actions, behaviors, and motives of characters; and to identify the use of literary devices such as personification and foreshadowing.

When reading **informative text**, they should be able to summarize the text using explicit and implied information and support conclusions with inferences based on the text.

When reading **practical text**, Proficient-level students should be able to describe its purpose and support their views with examples and details. They should be able to judge the importance of certain steps and procedures.

FIGURE 1.2 Description of Reading Achievement Levels for Basic, Proficient, and Advanced Eighth Graders (continued)

ADVANCED LEVEL (328)	Eighth-grade students performing at the **Advanced level** *should be able to describe the more abstract themes and ideas of the overall text.* When reading text appropriate to 8th grade, they *should be able to analyze both meaning and form and support their analyses explicitly with examples from the text; they should be able to extend text information by relating it to their experiences and to world events.* At this level, student *responses should be thorough, thoughtful, and extensive.*

For example, when reading **literary text**, Advanced-level 8th graders should be able to make complex, abstract summaries and theme statements. They should be able to describe the interactions of various literary elements (i.e., setting, plot, characters, and theme); to explain how the use of literary devices affects both the meaning of the text and their response to the author's style. They should be able critically to analyze and evaluate the composition of the text.

When reading **informative text**, they should be able to analyze the author's purpose and point of view. They should be able to use cultural and historical background information to develop perspectives on the text and be able to apply text information to broad issues and world situations.

When reading **practical text**, Advanced-level students should be able to synthesize information that will guide their performance, apply text information to new situations, and critique the usefulness of the form and content.

Grade 8 Basic: Example 1

Cady's Life/I Am One

[This passage is a fictional short story written by Anne Frank about a young Christian girl in Nazi Germany and her Jewish friend. The story is introduced with a brief biography of Anne Frank. A poem with a related theme follows the story.]

The soldier released Cady after he caught her hiding because

A he was ordered to release her
→ B Cady was not Jewish
C he recognized Cady and knew her parents
D Cady could still get home before curfew if she ran

Overall Percentage Correct*: **84 (1.0)**

Conditional Percentage
Basic Interval*: **92 (2.0)**

Grade 8 Proficient: Example 1

Cady's Life/I Am One

[This passage is a fictional short story written by Anne Frank about a young Christian girl in Nazi Germany and her Jewish friend. The story is introduced with a brief biography of Anne Frank. A poem with a related theme follows the story.]

For Anne Frank, what was "the something that I can do"?

____
____
____
____
____

Acceptable answers mentioned at least one aspect of Anne Frank's life as described in the biographical sketch or portrayed in the story.

Overall Percentage Correct*: **33 (1.4)**

Conditional Percentage
Proficient Interval*: **57 (3.0)**

---

*The standard errors of the estimated percentages appear in the parentheses.

Grade 8 Proficient: Example 2 *Cady's Life/I Am One*

[This passage is a fictional short story written by Anne Frank about a young Christian girl in Nazi Germany and her Jewish friend. The story is introduced with a brief biography of Anne Frank. A poem with a related theme follows the story.]

Explain what the author means when she says that slamming doors symbolized the closing of the door of life.

____

____

____

____

____

Acceptable answers mentioned that the sound of the slamming doors meant that people were being taken away from their homes by soldiers and probably killed, or prevented from returning to their way of life.

Overall Percentage Correct*: **54 (1.7)**

Conditional Percentage Proficient Interval*: **79 (2.8)**

Grade 8 Proficient: Example 3 *Cady's Life/I Am One*

[This passage is a fictional short story written by Anne Frank about a young Christian girl in Nazi Germany and her Jewish friend. The story is introduced with a brief biography of Anne Frank. A poem with a related theme follows the story.]

In the poem, what does the author mean when he writes "I am only one, but still I am one"?

A Life is difficult if you act as an individual.
→ B Even one person acting alone can make a difference.
C Everyone has an obligation to be counted.
D You can always count on yourself to solve difficult problems.

Overall Percentage Correct*: **66 (1.4)**

Conditional Percentage Proficient Interval*: **83 (2.0)**

---

*The standard errors of the estimated percentages appear in the parentheses.

7-

Grade 8 Advanced: Example 1 *Cady's Life/I Am One*

[This passage is a fictional short story written by Anne Frank about a young Christian girl in Nazi Germany and her Jewish friend. The story is introduced with a brief biography of Anne Frank. A poem with a related theme follows the story.]

Why did the author write this story from the perspective of Cady, a Christian?

____
____
____
____
____

Acceptable responses mentioned that the author may have wanted to reveal the predicament in which Christians were placed. That is, since the author was not a Christian, she may have been trying to understand for herself or to demonstrate for others how some Christians felt about what was happening to people like herself.

Overall Percentage Correct*: **38 (1.2)**

Conditional Percentage
Advanced Interval*: **94 (3.8)**

---

*The standard errors of the estimated percentages appear in the parentheses.

FIGURE 1.3 Description of Reading Achievement Levels for Basic, Proficient, and Advanced Twelfth Graders

The three purposes for reading assessed as a part of the NAEP reading assessment at grade 12 are reading for literary experience, reading to gain information, and reading to perform a task. Achievement levels are cumulative from Basic to Proficient to Advanced. One level builds on the previous levels such that knowledge at the Proficient level presumes mastery of the Basic level, and knowledge at the Advanced level presumes mastery at both the Basic and Proficient levels.

BASIC LEVEL (269)	Twelfth-grade students performing at the **Basic level** *should be able to demonstrate an overall understanding and make some interpretations of the text.* When reading text appropriate to 12th grade, they *should be able to identify and relate aspects of the text to its overall meaning, recognize interpretations, make connections among and relate ideas in the text to their personal experiences, and draw conclusions.* They *should be able to identify elements of an author's style.*

For example, when reading **literary text**, Basic-level 12th-grade students should be able to explain the theme, support their conclusions with information from the text, and make connections between aspects of the text and their own experiences.

When reading **informational text**, Basic-level 12th graders should be able to explain the main idea or purpose of a selection and use text information to support a conclusion or make a point. They should be able to make logical connections between the ideas in the text and their own background knowledge.

When reading **practical text,** they should be able to explain its purpose and the significance of specific details or steps.

PROFICIENT LEVEL (304)	Twelfth-grade students performing at the **Proficient level** *should be able to show an overall understanding of the text which includes inferential as well as literal information.* When reading text appropriate to 12th grade, they *should be able to extend the ideas of the text by making inferences, drawing conclusions, and making connections to their own personal experiences and other readings. Connections between inferences and the text should be clear, even when implicit.* These *students should be able to analyze the author's use of literary devices.*

When reading **literary text**, Proficient-level 12th graders should be able to integrate their personal experiences with ideas in the text to draw and support conclusions. They should be able to explain the author's use of literary devices such as irony or symbolism.

When reading **informative text,** they should be able to apply text information appropriately to specific situations and integrate their background information with ideas in the text to draw and support conclusions.

When reading **practical text**, they should be able to apply information or directions appropriately. They should be able to use personal experiences to evaluate the usefulness of text information.

FIGURE 1.3 Description of Reading Achievement Levels for Basic, Proficient, and Advanced Twelfth Graders (continued)

ADVANCED LEVEL (348)	Twelfth-grade students performing at the **Advanced level** *should be able to describe more abstract themes and ideas in the overall text.* When reading text appropriate to 12th grade, they *should be able to analyze both the meaning and the form of the text and explicitly support their analyses with specific examples from the text.* They *should be able to extend the information from the text by relating it to their experiences and to the world.* Their *responses should be thorough, thoughtful, and extensive.*

For example, when reading **literary text**, Advanced-level 12th graders should be able to produce complex, abstract summaries and theme statements. They should be able to use cultural, historical, and personal information to develop and explain text perspectives and conclusions. They should be able to evaluate the text, applying knowledge gained from other texts.

When reading **informational text**, they should be able to analyze, synthesize, and evaluate points of view. They should be able to identify the relationship between the author's stance and elements of the text. They should be able to apply text information to new situations and to the process of forming new responses to problems or issues.

When reading **practical texts,** Advanced-level 12th graders should be able to make a critical evaluation of the usefulness of the text and apply directions from the text to new situations.

Grade 12 Basic: Example 1 *Battle of Lexington*

[This passage contains excerpts from four different accounts with differing perspectives of the battle of Lexington -- two from primary source materials and two from secondary sources.]

Which statement about the author of Passage C is best supported by the information in that passage?

→ **A** He was an eyewitness to the battle.
B He knew Paul Revere.
C He leapt over the wall with the other men.
D He sympathized with the British.

Overall Percentage Correct*: **75 (1.1)**

Conditional Percentage
Basic Interval*: **76 (2.3)**

Grade 12 Proficient: Example 1 *Battle of Lexington*

[This passage contains excerpts from four different accounts with differing perspectives of the battle of Lexington -- two from primary source materials and two from secondary sources.]

What issue about the battle of Lexington is discussed in all passages?

Acceptable answers indicated that the skirmish was between the British soldiers and the colonists, and a position is offered by each account on which side fired first.

Overall Percentage Correct*: **65 (1.7)**

Conditional Percentage
Proficient Interval*: **87 (2.1)**

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*The standard errors of the estimated percentages appear in the parentheses.

Grade 12 Proficient: Example 2

Battle of Lexington

[This passage contains excerpts from four different accounts with differing perspectives of the battle of Lexington -- two from primary source materials and two from secondary sources.]

The "someone" referred to in Passage B is most probably

→ **A** a colonist
B a British solider
C Captain Parker
D Paul Revere

Overall Percentage Correct*: **50 (1.5)**

Conditional Percentage
Proficient Interval*: **63 (3.1)**

Grade 12 Proficient: Example 3

Battle of Lexington

[This passage contains excerpts from four different accounts with differing perspectives of the battle of Lexington -- two from primary source materials and two from secondary sources.]

For what purpose would someone want to read these four differing reports of the battle of Lexington?

Acceptable answers provided a reason that reflected understanding of the content or purpose of the passages.

Overall Percentage Correct*: **68 (1.4)**

Conditional Percentage
Proficient Interval*: **82 (2.6)**

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*The standard errors of the estimated percentages appear in the parentheses.

Grade 12 Advanced: Example 1

Battle of Lexington

[This passage contains excerpts from four different accounts with differing perspectives of the battle of Lexington -- two from primary source materials and two from secondary sources.]

If you were writing a report on the battle of Lexington, which passage would you be most likely to use as a reliable source and why?

Acceptable answers indicated any of the four passages and provided appropriate support based on information included in the passage chosen.

Overall Percentage Correct*: **48 (2.1)**

Conditional Percentage Advanced Interval*: **87 (6.9)**

Grade 12 Advanced: Example 2

Battle of Lexington

[This passage contains excerpts from four different accounts with differing perspectives of the battle of Lexington -- two from primary source materials and two from secondary sources.]

Explain why the terms "embattled farmers" and "rebels" appear in quotation marks in Passage A.

Acceptable answers indicated that the author recognized that not everyone would have agreed with the use of the terms, or that they were special names used during that period to identify particular groups.

Overall Percentage Correct*: **44 (1.6)**

Conditional Percentage Advanced Interval*: **90 (8.3)**

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*The standard errors of the estimated percentages appear in the parentheses.

Both the overall and conditional percentages shown with the example questions relate to students' performance on those individual assessment questions. For multiple-choice questions, the national overall and conditional percentages are for the percentages of students giving correct answers. For the dichotomously rated regular constructed-response questions, the percentages are for students providing satisfactory (i.e., justified by the text) responses. The assessment also contained extended-response questions rated according to a four-point scale of unsatisfactory, partial, essential, and extensive, although none are shown here (see Appendix A for examples).

Because the achievement levels setting process is judgmental, focusing not so much on what students *did* do in the assessment, but rather on what they *should* do -- the actuality of student performance will not always meet the expectations of the judges. Learning how best to deal with these differences is part of the process of moving towards a standards-based reporting system. While some programs routinely perform *ad hoc* processes or adjustments to bring the standards and the results into alignment, for this report, NAEP has elected to report the few differences when they occurred or to point out when specific behaviors identified in the achievement levels were not measured. For example, in almost all instances, student performance on the example questions met the expectations of the judges (i.e., substantial percentages of students within the achievement level interval answered the questions correctly or acceptably as indicated by the conditional percentages), but occasionally students within the achievement level interval exemplified by a particular question had some difficulty with that question.

For example, at grade 4, the percentages of students within each of the achievement levels providing successful responses to the corresponding example questions are quite high, ranging from 76 to 90 percent for all but one of the exemplars (see FIGURE 1.1). This provides some evidence that fourth graders within the intervals set for each of the achievement levels generally performed as expected, actually demonstrating some of the skills that they *should* have for the achievement level under consideration. The one question with a relatively lower percentage of success (56 percent) is the first example for the Proficient level based on the passage about Sybil Luddington, a young woman who performed heroic deeds during the American revolutionary war. The question asked students if a similar story could take place today and to tell why or why not. Only 56 percent of the fourth graders within the Proficient interval could construct an appropriate response to this question. This indicates that "*recognizing similarities and differences,*" especially between a historical context and today, may be an emerging skill for fourth graders performing within the Proficient interval.

At grade 8, the conditional percentages for the illustrative questions ranged from 79 to 94 percent with only one exception. Of the example questions presented in FIGURE 1.2, the one garnering the relatively lower percentage of appropriate responses was the first constructed-response question exemplifying the Proficient level. To answer this question appropriately, students needed to link information from two sources. In the assessment, a story, "Cady's Life" by Anne Frank, giving an account of the experiences of a young girl in Holland during the second World War, was paired with a poem about the influence that only one person can have (i.e., "the something that I can do"). Fifty-seven percent of the students within the Proficient interval were able to use both texts to explain "the something" that Anne Frank could do. This may be a partial indication that among the skills defining the Proficient level at grade 8, "*supporting themes*" across two passages representing different genres was actually relatively difficult for Proficient eighth graders.

At grade 12, across the several examples contained in FIGURE 1.3, the most difficult question for students within each of the achievement levels -- 63 percent correct compared to 76 to 90 percent for the other exemplars -- was again a Proficient level exemplar requiring students to connect information across texts (see Example 2). Although this grade 12 question was in the multiple-choice format, it required linking across four different brief accounts of the battle of Lexington provided from different perspectives. Correct responses by about three-fifths of the Proficient twelfth graders may suggest that "*making inferences, ... and making connections to ... other readings*" are still beginning skills among those defined for Proficient twelfth-grade students.

Anchoring the Achievement Levels

Because the process of setting the reading achievement levels centered on the descriptions of what students *should* be able to do, it is also important to explore whether students *actually met* the expectations for performance at the Basic, Proficient, and Advanced levels. As illustrated by the handful of example questions shown in this chapter, comparing actual student performance on specific questions to the achievement level definitions can yield interesting information. To help in the process of describing students' performance on the assessment questions, NCES arranged for ETS to apply a modified anchoring procedure to the 1992 reading achievement levels that involved a thorough question-by-question analysis of students' performance vis-a-vis the achievement levels.

As applied to the reading achievement levels, the anchoring process was designed to determine the sets of questions that students scoring at or above each achievement level cutpoint could answer with a high degree of success. This was operationally defined as sets of questions answered by 65 percent or more (nearly two-thirds) of the students performing *at* each of the achievement level cutpoints,[13] recognizing that percentages of success would be even higher for students higher on the scale beyond each of the three cutpoints. Working from the Basic level up through Advanced performance at each grade, this selection procedure accounted for all questions in the reading assessment unless they were too difficult for even the Advanced-level students (see Appendix A for details). In other words, if a question was not answered successfully by at least 65 percent of the students at the Basic level, the procedure determined whether the question was answered successfully by at least 65 percent of the students at the Proficient level, and if not, then examined the success rate of students at the Advanced level.

ETS assembled a committee of reading education experts to review the sets of questions at each grade identified through this procedure and the assessment results associated with the questions. Using their knowledge of reading and student performance on the individual questions, the committee members were asked to summarize student performance at each achievement level and select example questions to illustrate their descriptions.

The summary descriptions of reading performance at each achievement level and the example questions are presented in Appendix A. Appendix A also contains a detailed analysis of students' performance at each achievement level, comparing the operational definitions to the question-by-question anchoring data.

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[13] To provide a sufficient pool of respondents, students were defined as those within plus or minus 12.5 scale points of the achievement level cutpoint (on average, students at the cutpoint).

Placing the anchor descriptions of how students performed at each of the levels in the context of the expectations for achievement at each of the levels as presented in the operational definitions and cross-checking with the actual question-by-question results yields some interesting findings, as discussed in Chapter Two. In general, the sets of reading skills expected were those observed. However, particularly for extended-response questions, even Advanced-level students had difficulty providing in-depth answers. In other instances, because the assessment was developed prior to the achievement level descriptions, particular reading skills were not measured.

Summary

NAEP's 1992 reading assessment was developed as a wholly new and innovative effort that can serve as the baseline for reporting future trends. It was administered to nationally representative samples of fourth-, eighth-, and twelfth-grade students attending public and private schools, and to state- representative samples of fourth graders in 43 jurisdictions (see page 1) who attended public schools. Nearly 140,000 students were assessed in all.

The *NAEP Reading Framework* underlying the assessment represented a newly developed, forward-looking view consisting of reading purposes as they interact with the stances that readers take throughout the reading process. The purposes assessed included reading for literary experience, to gain information, and to perform a task. The stances included constructing, extending, and examining meaning through initial understanding, developing interpretations, engaging in personal reflection and response, and demonstrating a critical stance. Throughout the development and conduct of the 1992 assessment, reading was viewed as a dynamic, interactive, and constructive process.

The assessment passages and questions also were quite innovative. The stories, articles, and documents were presented to students as intact pieces, reproduced as faithfully as possible from their original sources. About 60 to 70 percent of the students' response time was devoted to constructed-response questions, including some extended constructed-response questions requiring answers of a paragraph or more.

The data were collected by a trained field staff, and the scoring of the nearly two million constructed responses was accomplished with a high degree of reliability (90 percent, on average across questions). The data were analyzed using item response theory (IRT) techniques to summarize performance on a composite reading proficiency scale ranging from 0 to 500. A new partial-credit scaling procedure was used to account for students' responses to the extended constructed-response questions, which were scored according to four categories of increasing success.

To give meaning to the NAEP reading proficiency scale, cutpoints were established based on descriptions of what students *should* know and be able to do at three levels of achievement. Performance at the Basic level denotes partial mastery of the knowledge and skills fundamental for proficient work at each grade, but is not deemed satisfactory. The central level, Proficient, represents solid academic performance at the grades assessed. Achievement at the Advanced level signifies superior performance at the grades assessed. Because student performance does not always meet expectations, the achievement levels also were anchored to provide information about what reading skills and strategies were displayed by students in the assessment at each grade at each of the three achievement levels. The achievement levels reporting approach, essentially new for the 1992 assessments, is being adopted by NCES in an attempt to shift to standards-based reporting for NAEP. Although controversial, the data in the report will allow the public to see for themselves the complexities involved in standards-based reporting.

Chapter Two

Reading Achievement for the Nation and the States

This chapter presents information about students' reading achievement for the nation, public and private schools, four regions of the country, and states, as summarized on NAEP's 0 to 500 composite reading proficiency scale.

National Average Reading Proficiency and Achievement Level Results

TABLE 2.1 presents the average reading proficiency for fourth-, eighth-, and twelfth-grade students across the nation (including those attending both public and private schools). It also shows the percentages of students at each grade performing at or above the three achievement levels presented in Chapter One -- Basic, Proficient, and Advanced.

- Fifty-nine percent of the fourth graders, 69 percent of the eighth graders, and 75 percent of the twelfth graders were estimated to have reached the Basic level or beyond, indicating at least partial mastery of the knowledge and skills needed for proficient work at each grade.
- For grades 4, 8, and 12, the percentages of students estimated to have met or exceeded the Proficient achievement level were 25, 28, and 37 percent, respectively. Proficient, the central level, represents solid academic performance and competence with challenging subject matter.
- The Advanced achievement level signifies superior performance beyond Proficient. Very few students at any of the three grades assessed attained the Advanced level -- from 2 to 4 percent.

TABLE 2.1 **National Overall Average Reading Proficiency and Achievement Levels, Grades 4, 8, and 12, 1992 Reading Assessment**

Grades	Average Proficiency	Percentage of Students At or Above			Below Basic
		Advanced	Proficient	Basic	
4	218(1.0)	4(0.5)	25(1.1)	59(1.1)	**41(1.1)**
8	260(0.9)	2(0.3)	28(1.1)	69(1.0)	**31(1.0)**
12	291(0.6)	3(0.3)	37(0.8)	75(0.7)	**25(0.7)**

The standard errors of the estimated percentages and proficiencies appear in parentheses. It can be said with 95 percent certainty that for each population of interest, the value for the whole population is within plus or minus two standard errors of the estimate for the sample. In comparing two estimates, one must use the standard error of the difference (see Appendix for details).

SOURCE: National Assessment of Educational Progress (NAEP), 1992 Reading Assessment.

As previously described, it is possible to characterize the actual nature of students' reading performance at each grade for each achievement level by using a scale anchoring procedure. The achievement levels were anchored by identifying the sets of questions that students scoring at or around the achievement level cutpoints could complete successfully. These questions then were analyzed by reading education experts to characterize the nature of student reading performance at each achievement level.

A complete discussion of the anchoring process and a detailed description of students' reading performance as demonstrated in the 1992 reading assessment is contained in Appendix A. Appendix A also includes an analysis for each achievement level for each grade of the reading skills students demonstrated within the various purposes of reading encompassed by the *NAEP Reading Framework*. In this analysis, the operational definitions of the achievement levels provide the framework for examining students' reading achievement.

The analysis of students' performance vis-à-vis the operational definitions of the achievement levels is summarized in the following sections. For each grade, the operational definition of each achievement level and the anchoring description are summarized side-by-side. Then, the reading skills demonstrated by students at each achievement level are described in the context of the operational definition for that achievement level as presented in full in Chapter One. This enables a brief overview of what students *should* be able to as defined by the achievement levels, what they *could* do as evidenced by their assessment performance, and how these two can be linked.

Fourth-Grade Students' Performance at the Achievement Levels

Percentage At or Above **BASIC**: 59 (1.1)*	**Grade 4** Scale-score cutpoint: 212
Achievement Level Description	**Anchoring Description**
Fourth grade students at the ***Basic level*** *should demonstrate an understanding of the overall meaning of what they read.* When reading text appropriate to 4th grade, *they should be able to make relatively obvious connections between the text and their own experiences.*	Fourth-grade students at the ***Basic level*** could understand uncomplicated narratives and high-interest informative texts. They identified obvious themes, located explicit information, summarized parts of text, and made judgments about characters' actions.

*The standard error of the estimated percentage appears in the parentheses.

Fifty-nine percent of the fourth graders were estimated to have performed at or above the ***Basic*** achievement level, and conversely, 41 percent were found to have performed below that level. Looking specifically at the Basic level, 34 percent of the fourth graders were estimated to have performed within the interval between the Basic and Proficient achievement levels. Overall, fourth graders responding within the Basic level were able to support their understanding of simple narratives, to tell what the stories were generally about, and to provide or identify important details which supported their understanding of what they read. Fourth graders at the Basic level had considerable success in answering questions about characters' traits, actions, and perspectives, much of the time because the familiarity of the topics related either implicitly or explicitly to their own experiences. They were relatively successful in making connections between the text and their own personal experiences.

Percentage At or Above **PROFICIENT**: 25 (1.1)*	**Grade 4** Scale-score cutpoint: 243
Achievement Level Description	**Anchoring Description**
Fourth-grade students at the ***Proficient level*** *should be able to demonstrate an overall understanding of the text, providing inferential as well as literal information.* When reading text appropriate to 4th grade, *they should be able to extend the ideas in the text by making inferences, drawing conclusions, and making connections to their own experiences. The connection between the text and what the student infers should be clear.*	Fourth-grade students at the ***Proficient level*** could understand and interpret less familiar texts. They provided textual support for interpretations, generalized across text, identified relevant information, understood subtleties in aspects of a story, related text to background experiences, and formulated simple questions.

*The standard error of the estimated percentage appears in the parentheses.

Twenty-five percent of the fourth graders were estimated to have performed at or above the ***Proficient*** achievement level, and 21 percent fell in the interval between the Proficient and Advanced levels. Fourth graders performing within the Proficient level were able to employ both inferential and literal information in order to build a more elaborate understanding of materials they read, including more difficult, unfamiliar pieces -- those in culturally different or historical settings. They were beginning to summarize and draw conclusions based on both literary and informational materials, and were able to identify or describe key concepts or themes of what they were asked to read. Proficient-level fourth graders provided connections to personal experience. They demonstrated some ability to take a critical stance, even though those skills were not mentioned except at the Advanced achievement level.

Percentage At or Above **ADVANCED**: 4 (0.5)*	**Grade 4** Scale-score cutpoint: 275
Achievement Level Description	**Anchoring Description**
Fourth-grade students at the ***Advanced level*** *should be able to generalize about topics in their reading selection and demonstrate an awareness of how authors compose and use literary devices.* When reading text appropriate to 4th grade, *they should be able to judge texts critically and, in general, give thorough answers that indicate careful thought.*	Fourth-grade students at the ***Advanced level*** were able to interpret and examine the meaning of text. They summarized information across whole texts, developed the own ideas about textual information, understood some literary devices, and were beginning formulate more complex questions about text.

*The standard error of the estimated percentage appears in the parentheses.

A very small percentage -- 4 percent -- of the fourth graders were estimated to have reached the ***Advanced*** achievement level or beyond. Fourth graders within the Advanced level were able to extend, elaborate, and examine the meaning of literary and informative text. They provided supported generalizations and displayed an awareness of how writers use language and literary devices in their work. Students' responses indicated that those at the Advanced level were able to make thoughtful, critical judgments about what they read and some were able to give complete answers in response to their reading, although this was primarily only an emerging skill. Providing thorough, detailed answers was beyond even the Advanced-level fourth graders, as only a handful did so.

Eighth-Grade Students' Performance at the Achievement Levels

Percentage At or Above **BASIC**: 69 (1.0)*	**Grade 8** Scale-score cutpoint: 244
Achievement Level Description	**Anchoring Description**
Eighth-grade students performing at the ***Basic level*** *should demonstrate a literal understanding of what they read and be able to make some interpretations.* When reading text appropriate to 8th grade, *they should be able to identify specific aspects of the text that reflect the overall meaning, recognize and relate interpretations and connections among ideas in the text to personal experience, and draw conclusions based on text.*	Eighth-grade students at the ***Basic level*** could understand passages representing familiar genres. They recognized central themes or topics and identified the central purpose of practical documents. They identified literal information, interpreted and described character traits, and connected information from across text.

*The standard error of the estimated percentage appears in the parentheses.

Sixty-nine percent of the eighth graders were estimated to have performed at or above the ***Basic*** achievement level, while 31 percent were below that level. The proportion of eighth graders who fell within the Basic interval, between the Basic and Proficient thresholds, was estimated to be 41 percent. Eighth graders performing within the Basic interval demonstrated literal understanding of passages that were typically of a familiar genre. They had considerable success in identifying specific aspects of the text, such as facts and ideas that could be understood at a surface level. Substantial percentages were able to identify main ideas and recognize relationships between ideas in text. Among the most difficult questions for students at this level were ones that required interpretations and drawing conclusions based on text. Although some ability to make personal connections to text was evident at this level, these connections seemed to be confined to simple reactions or personal opinions about text that were only minimally supported. Longer passages of different genre and extended-response questions were noticeably difficult for Basic-level eighth graders.

Percentage At or Above
PROFICIENT: 28 (1.1)*

Grade 8
Scale-score cutpoint: 283

Achievement Level Description	Anchoring Description
Eighth-grade students performing at the ***Proficient level*** *should be able to show an overall understanding of the text, including inferential as well as literal information.* When reading text appropriate to 8th grade, they *should be able to extend the ideas in the text by making clear inferences from it, by drawing conclusions, and by making connections to their own experiences -- including other reading experiences.* Proficient 8th graders *should be able to identify some of the devices authors use in composing text.*	Eighth-grade students at the ***Proficient level*** were able to move beyond surface understanding of a text or multiple texts. They made inferences about characters and themes, linked generalizations to specific details, supported their opinions about text, recognized an author's intentions, and used a document to solve simple problems.

*The standard error of the estimated percentage appears in the parentheses.

Twenty-eight percent of the eighth graders were estimated to have performed at or above the ***Proficient*** achievement level. There were 26 percent who fell within the range of performance between the Proficient and Advanced levels. Eighth-grade students within the Proficient level demonstrated an overall understanding of what they read that included literal as well as inferential information. Students at this level clearly had developed more interpretive reading abilities with literary, informational, and practical texts than their counterparts at the Basic level or below. They demonstrated the ability to move beyond surface understanding and extend the meaning of text as well as make inferences about characters and themes and support conclusions based on the text. More instances of explicit connections to personal experiences were evident at this level, and students were able to consider text objectively. They were beginning to recognize and interpret an author's use of specific literary devices. Compared to those at the Basic achievement level, students were more competent in generating their own brief responses.

Percentage At or Above **ADVANCED**: 2 (0.3)*	**Grade 8** Scale-score cutpoint: 328
Achievement Level Description	**Anchoring Description**
Eighth-grade students performing at the ***Advanced level*** *should be able to describe the more abstract themes and ideas of the overall text.* When reading text appropriate to 8th grade, they *should be able to analyze both meaning and form and support their analyses explicitly with examples from the text; they should be able to extend text information by relating it to their experiences and to world events.* At this level, student *responses should be thorough, thoughtful, and extensive.*	Eighth-grade students at the ***Advanced level*** compared and contrasted information across multiple texts. They could connect inferences with themes, understand underlying meanings, and integrate prior knowledge with text interpretations. They also demonstrated some ability to evaluate the limitations of documents.

*The standard error of the estimated percentage appears in the parentheses.

Only 2 percent of all eighth graders actually reached the ***Advanced*** achievement level. These Advanced students were able not only to understand overall meaning but also were able to demonstrate their grasp of more abstract themes and concepts in reading materials. They could more fully integrate prior knowledge with text interpretations than had been evident at the lower achievement levels. They apparently brought their own rich understandings of human nature and world events to their text interpretations. In several questions, students demonstrated that they were able to analyze both meaning and form, and in at least one instance, support their analysis with explicit examples from text. These students could extend text information by relating it to their experience and to world events. They were also beginning to provide more thorough and thoughtful written responses.

Twelfth-Grade Students' Performance at the Achievement Levels

Percentage At or Above **BASIC**: 75 (0.7)*	**Grade 12** Scale-score cutpoint: 269
Achievement Level Description	**Anchoring Description**
Twelfth-grade students performing at the ***Basic level*** *should be able to demonstrate an overall understanding and make some interpretations of the text.* When reading text appropriate to 12th grade, they *should be able to identify and relate aspects of the text to its overall meaning, recognize interpretations, make connections among and relate ideas in the text to their personal experiences, and draw conclusions.* They *should be able to identify elements of an author's style.*	Twelfth-grade students at the ***Basic level*** could develop interpretations from a variety of texts. They understood overall arguments, recognized explicit aspects of plot and characters, and supported global generalizations. They were able to respond personally to texts, and use major document features to solve real-world problems.

*The standard error of the estimated percentage appears in the parentheses.

Seventy-five percent of the twelfth graders were estimated to have performed at or above the ***Basic*** achievement level, with the remaining 25 percent below that level. Thirty-eight percent fell within the Basic interval. These students were able to interpret aspects of the passages they read and make connections between their reading and their own knowledge and experience. They demonstrated this ability to develop interpretations with a variety of texts, including those that were lengthy and somewhat complex. However, most of the questions associated with performance at this level were linked to informative passages. Twelfth-grade students at the Basic level were able to understand specific issues as a result of reading informative texts, and use text information to support a conclusion or make a point with a brief written response. They were able to use information or directions from their reading of practical texts in order to explain the purpose of the document and the importance of particular factual details or tasks.

Percentage At or Above **PROFICIENT**: 37 (0.8)*	**Grade 12** Scale-score cutpoint: 304
Achievement Level Description	**Anchoring Description**
Twelfth-grade students performing at the ***Proficient level*** *should be able to show an overall understanding of the text which includes inferential as well as literal information.* When reading text appropriate to 12th grade, they *should be able to extend the ideas of the text by making inferences, drawing conclusions, and making connections to their own personal experiences and other readings. Connections between inferences and the text should be clear, even when implicit. These students should be able to analyze the author's use of literary devices.*	Twelfth-grade students at the ***Proficient level*** integrated background experiences and knowledge with meaning from a variety of texts. They could interpret characters' motives and consider differing points of view. They were able to interpret literary devices, identify text structure and writing style, and apply document information to solve complex problems.

*The standard error of the estimated percentage appears in the parentheses.

Thirty-seven percent of twelfth graders were estimated to have performed at or above the ***Proficient*** achievement level, and 34 percent were in the interval between the Proficient and Advanced levels. Twelfth graders performing within the Proficient level made appropriate inferences as they extended their understanding by connecting ideas and concepts in what they read with other readings, as well as with their own experiences. Drawing on their personal knowledge, they were able to interpret characters' motives and feelings, perceive significant character traits, identify similarities between characters, and develop an understanding of evolving characterizations within a story. Students at this level were beginning to recognize the use of certain literary devices. There was considerable evidence that they could integrate background information with ideas in the text to draw and support conclusions, as well as analyze and make judgments about informative material. They demonstrated an ability to read and follow directions and to interpret practical passages appropriately in order to solve a problem or attempt a particular task. One hallmark of Proficient-level performance at twelfth grade appears to be the emerging ability to provide complete written responses.

Percentage At or Above **ADVANCED**: 3 (0.3)*	**Grade 12** Scale-score cutpoint: 348
Achievement Level Description	**Anchoring Description**
Twelfth-grade students performing at the ***Advanced level*** *should be able to describe more abstract themes and ideas in the overall text.* When reading text appropriate to 12th grade, they *should be able to analyze both meaning and the form of the text and explicitly support their analyses with specific examples from the text.* They *should be able to extend the information from the text by relating it to their experiences and to the world.* Their *responses should be thorough, thoughtful, and extensive.*	Twelfth-grade students at the ***Advanced level*** constructed complex understandings of multiple passages representing different genres. They could interpret multidimensional aspects of characters and connect discipline-specific knowledge to text. They examined authors' devices, judged the value of informative sources, and suggested improvements for documents.

*The standard error of the estimated percentage appears in the parentheses.

Students whose performance placed them within the ***Advanced*** achievement level accounted for only 3 percent of all twelfth graders. Although small in number, these students demonstrated more complex and abstract understandings. They were able to analyze texts from the perspective of both meaning and form, as well as express their understandings with support from specific examples and inferences drawn from the passages they read. They demonstrated an ability to construct summaries or descriptions of major story elements, and interpreted and described multidimensional aspects of character relationships, feelings, and motivations, and used their familiarity with literary elements to develop in-depth interpretations and examine critically the author's style. They could synthesize and critically examine information presented in individual and sets of informative texts. Advanced-level twelfth graders dealt effectively with practical texts and managed various organizational structures in accessing and applying information presented in documents, including forms and schedules. They could integrate text and document directions to complete a task accurately and thoroughly. They demonstrated particular strengths in dealing objectively and critically with text. Students at this level were unquestionably more capable in providing thorough, detailed responses to extended questions about what they read than students at the lower levels. However, very few Advanced-level twelfth graders were able to provide the kind of thoughtful and comprehensive answers to questions that characterized the top level of performance sought on most of the extended constructed-response questions.

Overall Reading Proficiency and Achievement Level Results for Public and Private Schools

Average reading proficiency and achievement levels for the nation by type of school for students in grades 4, 8, and 12 are presented in TABLE 2.2. Students going to private schools were divided into two categories: those attending Catholic schools and those attending other types of private schools.

- At all three grades, students in private schools, either Catholic or other types of private schools, had higher average reading proficiency than did students attending public schools.

- Greater percentages of students in private schools, either Catholic or other, reached the Basic and the Proficient achievement levels. Forty-three percent of the public-school fourth graders did *not* reach the Basic level of achievement compared to 27 and 22 percent of the Catholic- and other private-school students, respectively. At grade 12, the Proficient level or better was attained by about one third of the public-school students and by more than half of the private-school students (both Catholic and other).

- Across the three types of schools, approximately 2 to 10 percent of the students in the three grades reached the Advanced achievement level. At each grade, a smaller percentage of public-school students reached the Advanced level than did students attending the non-Catholic private schools. The percentages of Catholic-school students achieving the advanced level were in between those for the public- and other private-school students.

TABLE 2.2 **Average Reading Proficiency and Achievement Levels by Type of School, Grades 4, 8, and 12**

	Percentage of Students	Average Proficiency	Percentage of Students At or Above			Below Basic
			Advanced	Proficient	Basic	
Grade 4						
Public Schools	88(1.3)	216(1.1)	4(0.6)	24(1.2)	57(1.2)	**43(1.2)**
Catholic Schools	8(0.8)	230(2.2)	7(1.5)	36(2.7)	73(2.5)	**27(2.5)**
Other Private Schools	4(1.1)!	236(5.3)!	10(2.9)	43(8.1)	78(4.2)	**22(4.2)**
Grade 8						
Public Schools	89(0.8)	258(1.0)	2(0.3)	25(1.1)	67(1.1)	**33(1.1)**
Catholic Schools	6(0.6)	275(1.9)	4(1.0)	43(2.7)	84(1.6)	**16(1.6)**
Other Private Schools	4(0.8)	283(3.0)	7(2.2)	52(4.8)	90(2.6)	**10(2.6)**
Grade 12						
Public Schools	87(1.2)	289(0.7)	3(0.3)	34(0.9)	73(0.9)	**27(0.9)**
Catholic Schools	9(1.2)	306(1.5)	6(0.8)	55(2.8)	91(1.2)	**9(1.2)**
Other Private Schools	4(0.7)	308(3.0)	10(1.5)	58(4.3)	87(2.6)	**13(2.6)**

The standard errors of the estimated percentages and proficiencies appear in parentheses. It can be said with 95 percent certainty for each population of interest, the value for the whole population is within plus or minus two standard errors of the estimate for the sample. In comparing two estimates, one must use the standard error of the difference (see Appendix for details). Percentages may not total 100 percent due to rounding error. !Interpret with caution -- the nature of the sample does not allow accurate determination of the variability of this estimated statistic.

SOURCE: National Assessment of Education Progress (NAEP), 1992 Reading Assessments.

Overall Average Reading Proficiency and Achievement Level Results for Four Regions of the Country

The regional results for students attending both private and public schools combined are presented in TABLE 2.3. Appendix B provides information about the assignment of states to the four regions -- Northeast, Southeast, Central, and West.

- At grade 4, there was little, if any, difference in reading achievement among the regions. In general, the apparent differences in average proficiency and in the percentages of students performing at or above the three achievement levels were not found to be statistically significant.[12]

- At grade 8, average reading proficiency in the Southeast was lower than in the other three regions. Although fewer students in the Southeast than in the Northeast performed at or above the Basic and Proficient achievement levels, the percentages of eighth graders reaching the three achievement levels tended to be similar across the regions.

- At grade 12, average reading proficiency was lower in the Southeast than in the other three regions of the country and fewer Southeastern students reached the Basic or the Proficient achievement levels. Similar performance was observed for the Northeast, West, and Central regions. It was estimated that 68 percent of the twelfth graders in the Southeast reached the Basic level compared to 76 to 79 percent across the other three regions. Twenty-eight percent reached the Proficient level in the Southeast compared to 38 to 40 percent across the other three regions.

- Only 1 to 7 percent of the students across the regions in any of the three grades assessed were estimated to have attained the Advanced level.

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[12] The one significant difference was between the percentage of fourth graders attaining the Basic level in the West compared to those in the Central region. The West versus Northeast difference of the same magnitude was not statistically significant.

TABLE 2.3 Average Reading Proficiency and Achievement Levels by Region, Grades 4, 8, and 12, 1992 Reading Assessment

	Percentage of Students	Average Proficiency	Percentage of Students At or Above			Below Basic
			Advanced	Proficient	Basic	
Grade 4						
Northeast	21(1.1)	223(3.7)	7(2.2)	31(4.1)	63(3.5)	**37(3.5)**
Southeast	23(1.0)	214(2.4)	4(0.7)	21(2.5)	54(3.2)	**46(3.2)**
Central	27(0.5)	221(1.4)	4(0.9)	26(2.1)	63(2.0)	**37(2.0)**
West	28(0.8)	215(1.5)	4(0.6)	24(1.4)	56(1.8)	**44(1.8)**
Grade 8						
Northeast	22(0.7)	263(1.8)	3(0.4)	31(1.9)	71(2.3)	**29(2.3)**
Southeast	25(0.5)	254(1.7)	1(0.4)	22(2.3)	63(1.8)	**37(1.8)**
Central	25(0.5)	264(2.2)	2(0.6)	31(2.4)	73(2.4)	**27(2.4)**
West	28(0.6)	260(1.2)	2(0.5)	27(1.4)	68(1.5)	**32(1.5)**
Grade 12						
Northeast	24(0.6)	293(1.2)	4(0.5)	40(1.6)	76(1.6)	**24(1.6)**
Southeast	23(0.6)	284(1.1)	2(0.3)	28(1.4)	68(1.4)	**32(1.4)**
Central	26(0.6)	294(1.1)	3(0.4)	40(1.6)	79(1.4)	**21(1.4)**
West	27(0.8)	292(1.6)	4(0.6)	38(2.2)	77(2.0)	**23(2.0)**

The standard errors of the estimated percentages and proficiencies appear in parentheses. It can be said with 95 percent certainty that for each population of interest, the value for the whole population is within plus or minus two standard errors of the estimate for the sample. In comparing two estimates, one must use the standard error of the difference (see Appendix for details). Percentages may not total 100 percent due to rounding error.

SOURCE: National Assessment of Educational Progress (NAEP), 1992 Reading Assessment.

Average Reading Proficiency and Achievement Level Results for the States

As shown in TABLE 2.4, the results for the states tended to parallel the corresponding regional results.

Please note that for comparisons between the nation or the regions and the participating states, the national and regional data provided in TABLE 2.4 should be used. The national assessment included both public- and private-school students, in contrast to the state assessments, which only included students attending public schools. Thus, the national and regional results provided together with the state data are based only on students attending **public** schools. For this reason, the national and regional data in TABLE 2.4 may differ somewhat from those presented previously in this chapter. Also, the regional results shown in the state tables are based on the nationally and regionally representative samples of public-school students who were assessed as part of the national program, and not from an aggregate of the separate state-by-state samples. Using the regional results from the national program is necessary because the voluntary nature of NAEP's Trial State Assessment Program does not guarantee representative regional results from the aggregated data across states, since not all states in all regions participate.

- For most participating jurisdictions, the majority of fourth graders reached the Basic level or beyond, and one fifth or more reached the Proficient level.

- Because the percentages of fourth graders performing at or above the Basic level ranged from 25 to 73 percent, there were notable exceptions. For example, it was estimated that the achievement of more than half of the fourth graders was below the Basic level in Alabama, California, the District of Columbia, Florida, Hawaii, Louisiana, Mississippi, South Carolina, and Guam.

- The percentages of fourth graders reaching the Proficient level ranged from 6 to 34 percent. States with an estimated 30 percent or more of their fourth graders reaching the Proficient level included Connecticut, Iowa, Maine, Massachusetts, New Hampshire, New Jersey, and North Dakota.

- Very few fourth graders in any state -- an estimated 1 to 6 percent -- reached the Advanced level.

TABLE 2.4 | **Overall Average Reading Proficiency and Achievement Levels, Grade 4, 1992 Reading Assessment**

PUBLIC SCHOOLS	Average Proficiency	Percentage of Students At or Above Advanced	Percentage of Students At or Above Proficient	Percentage of Students At or Above Basic	Percentage of Students Below Basic
NATION	216 (1.1)	4 (0.6)	24 (1.2)	57 (1.2)	43 (1.2)
Northeast	221 (4.0)	6 (2.4)	29 (4.4)	62 (3.9)	38 (3.9)
Southeast	212 (2.5)	3 (0.6)	19 (2.4)	52 (3.5)	48 (3.5)
Central	219 (1.6)	4 (0.9)	25 (2.3)	62 (2.0)	38 (2.0)
West	213 (1.7)	3 (0.5)	22 (1.6)	53 (1.9)	47 (1.9)
STATES					
Alabama	208 (1.7)	2 (0.4)	17 (1.3)	48 (2.1)	52 (2.1)
Arizona	210 (1.3)	2 (0.4)	18 (1.1)	51 (1.7)	49 (1.7)
Arkansas	212 (1.2)	3 (0.4)	20 (1.3)	53 (1.6)	47 (1.6)
California	203 (2.1)	3 (0.5)	17 (1.6)	45 (2.3)	55 (2.3)
Colorado	218 (1.2)	3 (0.4)	22 (1.4)	60 (1.6)	40 (1.6)
Connecticut	223 (1.3)	5 (0.9)	30 (1.4)	66 (1.9)	34 (1.9)
Delaware*	214 (0.7)	3 (0.4)	21 (1.3)	54 (1.3)	46 (1.3)
Dist. Columbia	189 (0.8)	1 (0.2)	8 (0.5)	28 (1.1)	72 (1.1)
Florida	209 (1.3)	2 (0.4)	18 (1.1)	49 (1.6)	51 (1.6)
Georgia	213 (1.5)	4 (0.5)	22 (1.5)	53 (1.8)	47 (1.8)
Hawaii	204 (1.7)	2 (0.3)	15 (1.4)	44 (2.0)	56 (2.0)
Idaho	221 (1.0)	3 (0.5)	24 (1.3)	63 (1.3)	37 (1.3)
Indiana	222 (1.3)	4 (0.7)	27 (1.4)	64 (1.7)	36 (1.7)
Iowa	227 (1.1)	5 (0.6)	32 (1.5)	70 (1.4)	30 (1.4)
Kentucky	214 (1.3)	2 (0.5)	19 (1.4)	55 (1.8)	45 (1.8)
Louisiana	205 (1.2)	1 (0.3)	13 (1.0)	42 (1.7)	58 (1.7)
Maine*	228 (1.1)	4 (0.7)	31 (1.7)	72 (1.4)	28 (1.4)
Maryland	212 (1.6)	3 (0.5)	21 (1.1)	53 (1.8)	47 (1.8)
Massachusetts	227 (1.0)	4 (0.6)	32 (1.4)	71 (1.4)	29 (1.4)
Michigan	217 (1.6)	3 (0.5)	23 (1.9)	59 (1.9)	41 (1.9)
Minnesota	222 (1.2)	4 (0.5)	28 (1.4)	65 (1.7)	35 (1.7)
Mississippi	200 (1.3)	1 (0.3)	12 (0.7)	38 (1.8)	62 (1.8)
Missouri	221 (1.3)	4 (0.4)	26 (1.5)	63 (1.5)	37 (1.5)
Nebraska*	222 (1.1)	4 (0.7)	27 (1.6)	65 (1.5)	35 (1.5)
New Hampshire*	229 (1.2)	6 (0.7)	34 (1.5)	73 (1.9)	27 (1.9)
New Jersey*	224 (1.5)	6 (0.9)	31 (1.7)	66 (1.9)	34 (1.9)
New Mexico	212 (1.5)	3 (0.6)	20 (1.6)	51 (1.7)	49 (1.7)
New York*	216 (1.4)	3 (0.5)	23 (1.1)	58 (1.4)	42 (1.4)
North Carolina	213 (1.2)	4 (0.5)	22 (1.2)	53 (1.4)	47 (1.4)
North Dakota	227 (1.2)	4 (0.6)	31 (1.5)	71 (1.9)	29 (1.9)
Ohio	219 (1.4)	3 (0.4)	24 (1.5)	60 (1.8)	40 (1.8)
Oklahoma	221 (1.0)	3 (0.5)	25 (1.1)	64 (1.3)	36 (1.3)
Pennsylvania	222 (1.3)	4 (0.6)	28 (1.5)	64 (1.9)	36 (1.9)
Rhode Island	218 (1.8)	3 (0.5)	24 (1.7)	59 (2.1)	41 (2.1)
South Carolina	211 (1.3)	2 (0.6)	19 (1.2)	49 (1.8)	51 (1.8)
Tennessee	213 (1.5)	3 (0.5)	20 (1.4)	53 (1.7)	47 (1.7)
Texas	214 (1.6)	3 (0.5)	20 (1.7)	53 (2.0)	47 (2.0)
Utah	222 (1.2)	3 (0.5)	26 (1.3)	64 (1.5)	36 (1.5)
Virginia	222 (1.4)	5 (0.8)	28 (1.5)	64 (1.8)	36 (1.8)
West Virginia	217 (1.3)	3 (0.5)	22 (1.3)	58 (1.5)	42 (1.5)
Wisconsin	225 (1.0)	4 (0.5)	29 (1.1)	67 (1.3)	33 (1.3)
Wyoming	224 (1.2)	4 (0.5)	28 (1.7)	68 (1.5)	32 (1.5)
TERRITORY					
Guam	183 (1.4)	1 (0.2)	6 (0.7)	25 (1.2)	75 (1.2)

*Did not satisfy one or more of the guidelines for school sample participation rates (see Appendix B for details).

The standard errors of the estimated percentages and proficiencies appear in parentheses. It can be said with 95 percent certainty that for each population of interest, the value for the whole population is within plus or minus two standard errors of the estimate for the sample. In comparing two estimates, one must use the standard error of the difference (see Appendix for details).

SOURCE: National Assessment of Educational Progress (NAEP), 1992 Reading Assessment.

Comparisons Among States Based on Overall Average Reading Proficiency

FIGURE 2.1 is provided to help interpret differences in the average proficiencies across jurisdictions participating in the grade 4 Trial State Assessment Program. The figure shows whether or not the differences in average reading proficiency between pairs of participating jurisdictions -- including 41 states, the District of Columbia, and Guam -- are statistically significant. The significance tests in FIGURE 2.1 are based on a Bonferroni procedure for multiple comparisons that holds across all possible comparisons to 5 percent the probability of erroneously declaring the averages for any two states to be different when they are not.

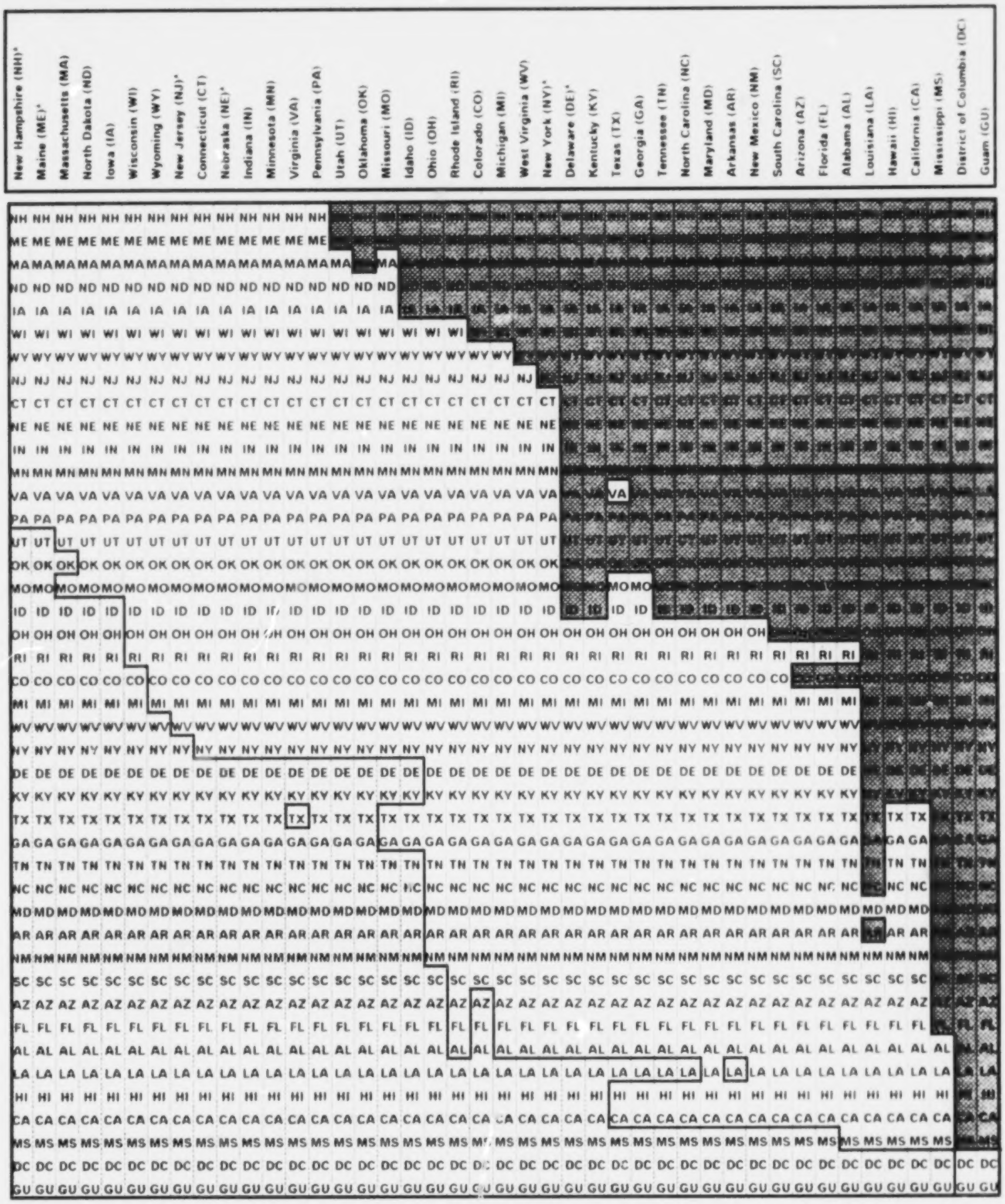
For example, in FIGURE 2.1, although the average reading proficiencies in the fourth grade appear to be different between New Hampshire (229) and Pennsylvania (222), the difference is not statistically significant and may be due to chance factors such as sampling and/or measurement error. The computations underlying FIGURE 2.1 take the confidence intervals or degree of sampling error associated with the estimates of average proficiency into account, as well as the estimates of average proficiency themselves. Also, the computations underlying FIGURE 2.1 were based on data carried out to two decimal places, rather than rounded to whole numbers. That New Hampshire and Utah (also 222) are shown to be statistically different reflects the fact that Utah's unrounded estimate of average reading proficiency was 221.63.

As an example of how to read FIGURE 2.1, compare average reading proficiency in the state of Michigan to that in each of the other 41 participating states, the District of Columbia, and Guam. Reading vertically down the FIGURE 2.1 column labeled Michigan, we see that, on average, fourth graders in Michigan scored lower than students in the states listed from New Hampshire through Wisconsin (the dark gray shaded states), about the same as students in all the states listed from Wyoming through Alabama (the white, or unshaded states), and better than students in the states and jurisdictions listed from Louisiana through Guam (light gray shading).

From FIGURE 2.1, we see that the cluster of highest-performing states was quite large, consisting of 14 states. The states whose fourth graders had the highest average reading proficiency were: New Hampshire, Maine, Massachusetts, North Dakota, Iowa, Wisconsin, Wyoming, New Jersey, Connecticut, Nebraska, Indiana, Minnesota, Virginia, and Pennsylvania.

FIGURE 2.1 | Comparisons of Overall Reading Average Proficiency 1992 Grade 4

INSTRUCTIONS: Read *down* the column directly under a state name listed in the heading at the top of the chart. Match the shading intensity surrounding a state postal abbreviation to the key below to determine whether the average reading performance of this state is higher than, the same as, or lower than the state in the column heading.



▨ State has statistically significantly higher average proficiency than the state listed at the top of the chart.

☐ No statistically significant difference from the state listed at the top of the chart.

☐ State has statistically significantly lower average proficiency than the state listed at the top of the chart.

The between state comparisons take into account sampling and measurement error and that each state is being compared with every other state. Significance is determined by an application of the Bonferroni procedure.

*Did not satisfy one or more of the guidelines for sample participation rates (see Appendix for details).

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Percentiles of Overall Reading Proficiency for the Nation and the States

The national percentiles of the distribution of overall reading proficiency are shown in TABLE 2.5. The percentiles illustrate the extent of variation within each of the three grades assessed. For example, the range between the 5th and 95th percentiles of performance within each grade (110 to 120 scale points) exceeded the range across the grades at any one percentile (69 to 70 scale points). The top 10 percent of the fourth graders had reading proficiency at least as high if not higher than half of the eighth graders. The top 10 percent of the eighth graders had proficiency as high if not higher than half of the twelfth graders. The top 5 percent of the fourth graders had proficiency as high if not higher than one-fourth of the twelfth graders. In making such comparisons, however, it should be understood that 4th, 8th, and 12th graders were each given grade-appropriate materials.

TABLE 2.5 Percentiles of Overall Reading Proficiency for 1992, Grades 4, 8, and 12, 1992 Reading Assessment

Grades	5th Percentile	10th Percentile	25th Percentile	50th Percentile	75th Percentile	90th Percentile	95th Percentile
4	154(1.3)	170(1.6)	195(1.2)	220(1.1)	243(1.1)	263(1.5)	274(1.7)
8	197(1.8)	213(1.2)	237(1.2)	262(0.9)	285(1.0)	305(1.2)	316(1.3)
12	233(1.2)	247(0.7)	269(0.8)	293(0.8)	314(0.6)	332(1.0)	343(0.8)

The standard errors of the estimated percentages appear in parentheses. It can be said with 95 percent certainty that for each population of interest, the value for the whole population is within plus or minus two standard errors of the estimate for the sample. In comparing two estimates, one must use the standard error of the difference (see Appendix for details).

SOURCE: National Assessment of Educational Progress (NAEP), 1992 Reading Assessment.

The percentile distributions in TABLE 2.6 illustrate the extent of variation in assessment results at the state level at grade 4. The same information is portrayed graphically in FIGURE 2.2. There were considerable differences in average achievement across participating jurisdictions from the higher- to the lower-performing states, with the District of Columbia and Guam having lower average achievement than any of the states. The variation within states, however, tended to exceed the variation in average performance across states. This variation led to considerable overlap in performance across states. Also, the variation within some states was much greater than in other states. For example, proficiency at the 95th percentile was similar in Colorado and California, but higher in Colorado than in California at the 5th percentile.

TABLE 2.6 | Percentiles of Overall Reading Proficiency, Grade 4, 1992 Reading Assessment

PUBLIC SCHOOLS	Average Proficiency	5th Percentile	10th Percentile	25th Percentile	50th Percentile	75th Percentile	90th Percentile	95th Percentile
NATION	216 (1.1)	152 (2.0)	168 (1.7)	193 (1.1)	218 (1.4)	241 (1.4)	261 (1.9)	272 (1.6)
Northeast	221 (4.0)	157 (5.1)	173 (5.4)	197 (6.3)	223 (4.4)	247 (3.8)	268 (6.5)	279 (7.2)
Southeast	212 (2.5)	149 (3.1)	163 (3.7)	188 (3.7)	214 (3.6)	236 (2.5)	256 (4.3)	268 (3.2)
Central	219 (1.6)	157 (4.4)	172 (3.9)	197 (2.4)	222 (2.2)	243 (2.6)	262 (3.5)	272 (2.8)
West	213 (1.7)	147 (3.6)	163 (3.6)	189 (2.0)	215 (1.8)	239 (1.5)	259 (1.6)	270 (5.5)
STATES								
Alabama	208 (1.7)	146 (2.4)	160 (2.1)	185 (2.5)	210 (1.7)	234 (2.0)	253 (1.5)	264 (2.2)
Arizona	210 (1.3)	149 (2.3)	164 (2.3)	187 (2.0)	213 (1.5)	235 (1.1)	254 (1.5)	264 (1.6)
Arkansas	212 (1.2)	149 (2.2)	164 (1.9)	188 (1.2)	214 (1.5)	237 (1.0)	256 (1.6)	267 (1.9)
California	203 (2.1)	129 (4.0)	147 (2.8)	176 (2.7)	206 (2.1)	233 (3.0)	254 (3.4)	266 (2.2)
Colorado	218 (1.2)	161 (2.6)	175 (2.6)	198 (1.3)	220 (1.4)	240 (1.4)	257 (1.0)	267 (1.6)
Connecticut	223 (1.3)	162 (2.3)	177 (2.9)	202 (2.8)	226 (1.1)	247 (1.5)	264 (1.9)	274 (2.3)
Delaware*	214 (0.7)	153 (2.1)	167 (1.8)	190 (1.6)	215 (1.2)	239 (0.9)	259 (1.2)	269 (1.7)
Dist. Columbia	189 (0.8)	124 (2.4)	139 (1.0)	162 (1.8)	189 (0.7)	215 (1.6)	239 (1.6)	253 (3.9)
Florida	209 (1.3)	146 (4.7)	161 (2.9)	186 (1.5)	211 (1.6)	236 (1.4)	254 (1.4)	265 (2.0)
Georgia	213 (1.5)	150 (2.4)	164 (1.8)	189 (2.7)	215 (1.7)	239 (1.7)	259 (2.3)	271 (2.0)
Hawaii	204 (1.7)	139 (4.3)	154 (1.7)	180 (2.3)	207 (1.7)	231 (1.9)	250 (1.7)	261 (1.7)
Idaho	221 (1.0)	167 (2.2)	180 (1.9)	201 (1.2)	222 (1.1)	242 (1.1)	259 (1.5)	269 (1.5)
Indiana	222 (1.3)	168 (3.3)	181 (2.4)	202 (2.3)	224 (1.2)	244 (1.2)	262 (1.7)	272 (2.4)
Iowa	227 (1.1)	172 (1.4)	185 (1.3)	207 (1.1)	229 (1.0)	249 (1.1)	265 (1.1)	275 (1.2)
Kentucky	214 (1.3)	154 (2.4)	168 (3.4)	192 (1.7)	216 (1.5)	238 (1.8)	255 (1.4)	266 (2.2)
Louisiana	205 (1.2)	148 (3.3)	161 (2.0)	182 (2.3)	205 (1.8)	228 (1.4)	247 (1.5)	259 (2.1)
Maine*	228 (1.1)	180 (2.0)	191 (2.7)	209 (1.3)	229 (1.6)	248 (1.1)	264 (1.7)	273 (1.8)
Maryland	212 (1.6)	147 (3.8)	162 (3.1)	189 (2.4)	215 (1.4)	239 (1.5)	257 (1.3)	268 (1.8)
Massachusetts	227 (1.0)	176 (1.9)	188 (1.5)	208 (1.2)	229 (1.4)	248 (1.0)	265 (2.0)	274 (1.3)
Michigan	217 (1.6)	159 (2.0)	173 (2.9)	195 (1.6)	220 (1.3)	241 (1.8)	258 (1.6)	268 (2.4)
Minnesota	222 (1.2)	165 (2.2)	179 (2.4)	201 (1.4)	224 (1.6)	245 (0.8)	262 (1.3)	271 (1.7)
Mississippi	200 (1.3)	139 (2.1)	153 (2.9)	176 (1.8)	201 (1.8)	225 (1.6)	246 (1.5)	257 (1.8)
Missouri	221 (1.3)	164 (4.6)	178 (2.2)	200 (1.3)	223 (1.4)	244 (1.4)	261 (1.1)	272 (1.6)
Nebraska*	222 (1.1)	167 (1.7)	180 (1.9)	202 (1.6)	224 (1.5)	245 (1.4)	262 (1.1)	272 (4.1)
New Hampshire*	229 (1.2)	176 (1.7)	190 (1.8)	210 (2.2)	231 (1.5)	250 (1.6)	266 (2.0)	277 (1.7)
New Jersey*	224 (1.5)	164 (3.8)	179 (3.4)	202 (1.6)	227 (1.8)	248 (1.6)	266 (1.8)	276 (2.0)
New Mexico	212 (1.5)	153 (3.2)	166 (3.1)	189 (1.6)	213 (1.2)	237 (2.3)	256 (2.4)	266 (2.5)
New York*	216 (1.4)	150 (5.1)	167 (2.6)	194 (2.4)	219 (1.6)	241 (1.6)	259 (1.4)	270 (1.7)
North Carolina	213 (1.2)	147 (2.1)	163 (1.6)	188 (1.3)	215 (1.5)	239 (1.3)	260 (1.8)	271 (2.0)
North Dakota	227 (1.2)	174 (3.0)	188 (3.2)	208 (2.2)	229 (1.7)	247 (1.5)	263 (1.9)	272 (1.4)
Ohio	219 (1.4)	161 (2.8)	175 (3.2)	197 (2.1)	220 (1.3)	242 (2.0)	260 (1.1)	270 (1.9)
Oklahoma	221 (1.0)	169 (3.3)	181 (1.1)	201 (1.4)	223 (1.0)	243 (1.5)	260 (0.9)	269 (1.8)
Pennsylvania	222 (1.3)	162 (2.6)	177 (3.2)	201 (1.6)	225 (1.6)	246 (1.9)	263 (1.6)	273 (2.0)
Rhode Island	218 (1.8)	156 (4.8)	172 (3.9)	196 (4.2)	220 (2.1)	242 (1.8)	260 (1.6)	271 (2.2)
South Carolina	211 (1.3)	151 (1.4)	165 (1.6)	188 (1.4)	211 (1.7)	236 (1.6)	256 (1.9)	266 (2.5)
Tennessee	213 (1.5)	154 (4.1)	169 (1.4)	190 (2.0)	215 (1.7)	237 (1.9)	256 (2.0)	267 (1.5)
Texas	214 (1.6)	154 (2.4)	168 (1.9)	191 (1.4)	215 (1.8)	238 (1.9)	257 (2.5)	268 (1.6)
Utah	222 (1.2)	167 (2.7)	180 (2.0)	201 (1.5)	224 (1.4)	244 (0.9)	260 (1.2)	270 (1.7)
Virginia	222 (1.4)	164 (2.2)	177 (2.5)	200 (1.7)	224 (1.6)	246 (1.2)	263 (2.0)	274 (1.6)
West Virginia	217 (1.3)	158 (2.6)	172 (2.6)	195 (1.6)	218 (1.5)	240 (1.2)	258 (1.7)	269 (2.0)
Wisconsin	225 (1.0)	172 (2.7)	185 (2.1)	204 (1.3)	227 (1.1)	246 (0.9)	263 (0.8)	273 (1.4)
Wyoming	224 (1.2)	170 (1.8)	183 (2.0)	205 (1.9)	227 (1.3)	246 (1.5)	262 (1.1)	271 (0.9)
TERRITORY								
Guam	183 (1.4)	110 (4.1)	127 (2.2)	155 (2.3)	186 (1.5)	213 (1.4)	235 (1.6)	246 (1.7)

*Did not satisfy one or more of the guidelines for school sample participation rates (see Appendix B for details).

The standard errors of the estimated proficiencies appear in parentheses. It can be said with 95 percent certainty that for each population of interest, the value for the whole population is within plus or minus two standard errors of the estimate for the sample. In comparing two estimates, one must use the standard error of the difference (see Appendix for details).

SOURCE: National Assessment of Educational Progress (NAEP), 1992 Reading Assessment.

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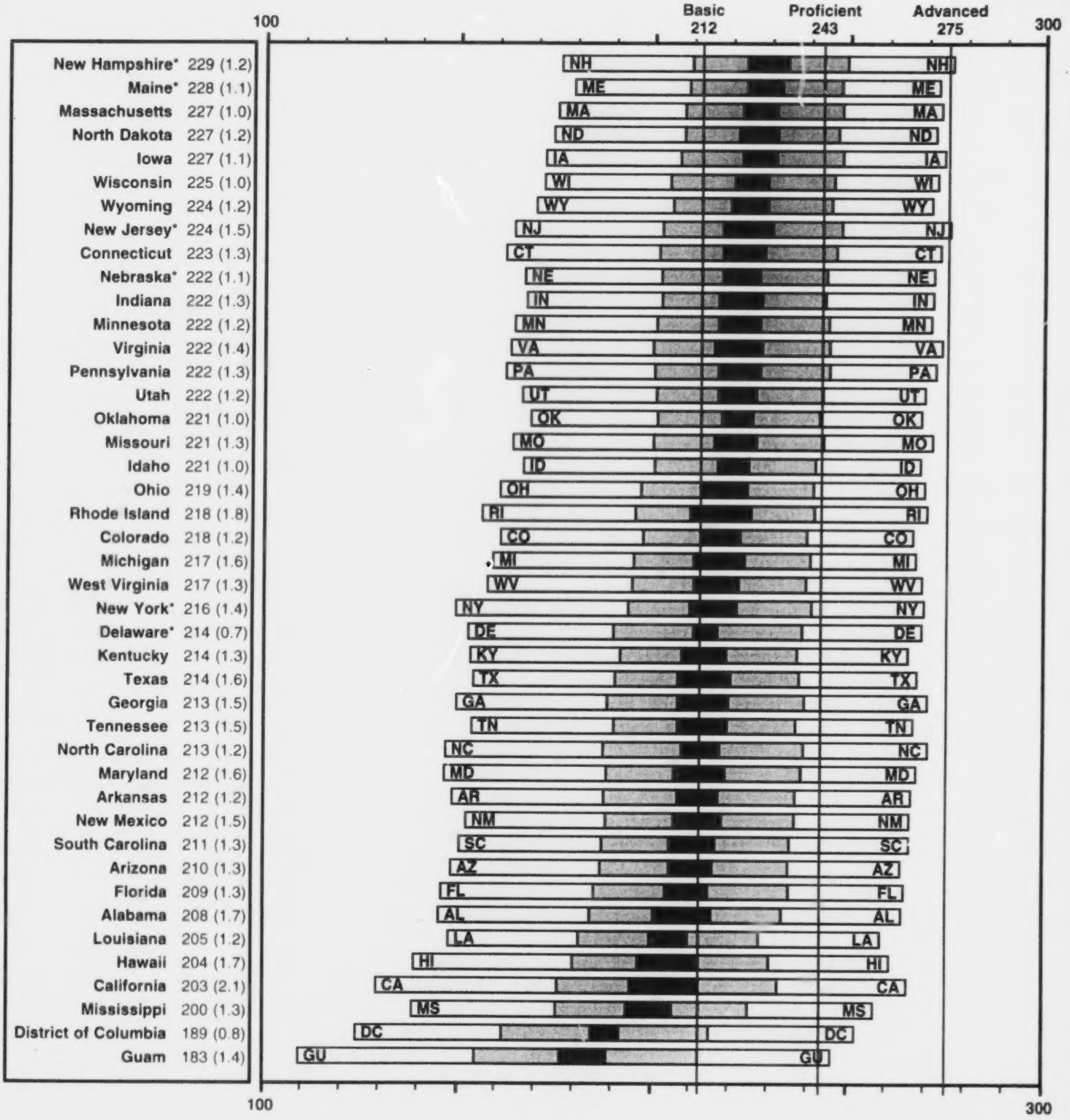
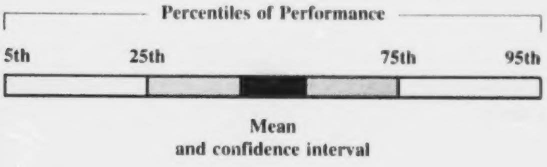
FIGURE 2.2 **Distribution of Overall Reading Proficiency Organized by Average Proficiency 1992 Grade 4**



New Hampshire*	229 (1.2)
Maine*	228 (1.1)
Massachusetts	227 (1.0)
North Dakota	227 (1.2)
Iowa	227 (1.1)
Wisconsin	225 (1.0)
Wyoming	224 (1.2)
New Jersey*	224 (1.5)
Connecticut	223 (1.3)
Nebraska*	222 (1.1)
Indiana	222 (1.3)
Minnesota	222 (1.2)
Virginia	222 (1.4)
Pennsylvania	222 (1.3)
Utah	222 (1.2)
Oklahoma	221 (1.0)
Missouri	221 (1.3)
Idaho	221 (1.0)
Ohio	219 (1.4)
Rhode Island	218 (1.8)
Colorado	218 (1.2)
Michigan	217 (1.6)
West Virginia	217 (1.3)
New York*	216 (1.4)
Delaware*	214 (0.7)
Kentucky	214 (1.3)
Texas	214 (1.6)
Georgia	213 (1.5)
Tennessee	213 (1.5)
North Carolina	213 (1.2)
Maryland	212 (1.6)
Arkansas	212 (1.2)
New Mexico	212 (1.5)
South Carolina	211 (1.3)
Arizona	210 (1.3)
Florida	209 (1.3)
Alabama	208 (1.7)
Louisiana	205 (1.2)
Hawaii	204 (1.7)
California	203 (2.1)
Mississippi	200 (1.3)
District of Columbia	189 (0.8)
Guam	183 (1.4)



The center ***darkest*** box indicates a simultaneous confidence interval around the average reading proficiency for the state based on the Bonferroni procedure for multiple comparisons. The ***darker shaded*** boxes indicate the ranges between the 25th and 75th percentiles of the reading proficiency distribution, and the ***lighter shaded*** boxes the ranges between the 5th to 25th percentiles and the 75th to 95th percentiles of the distribution.

*Did not satisfy one or more of the guidelines for sample participation rates (see Appendix for details).

Summary

Of the three achievement levels reported by NAEP -- Basic, Proficient, and Advanced, the central level, Proficient, represents solid academic performance and competence over challenging subject matter. Twenty-five percent of the students at grade 4, 28 percent at grade 8, and 37 percent at grade 12 were estimated to be at or above the Proficient achievement level for their grade. It was estimated that only small percentages of students -- from 2 to 4 percent -- reached the Advanced level, which signifies superior performance.

The Basic level denotes partial mastery of the knowledge and skills fundamental for proficient work at each grade. Fifty-nine percent of the fourth graders, 69 percent of the eighth graders, and 75 percent of the twelfth graders reached the Basic level or beyond. Conversely, however, 41 percent of the fourth graders, 31 percent of the eighth graders, and 25 percent of the twelfth graders were estimated to have performed below the Basic level.

Fourth graders reading at the Basic level generally understood simple narratives. They could identify important details and relate this information to their own experiences. Fourth graders at the Proficient level employed both inferential and literal information in reading more difficult, unfamiliar pieces. Those at the Advanced level were able to extend, elaborate, and examine the meaning of literary and informative texts. They provided supported generalizations and displayed an awareness of how writers use language and literary devices in their work. However, few answered the constructed-response questions in much depth.

Eighth graders reading within the Basic level experienced success in demonstrating literal understanding of passages. They identified main ideas, recognized relationships between ideas in text and provided personal reactions to what they read. Eighth-grade students within the Proficient level were able to demonstrate an overall understanding of what they read that included literal as well as inferential information. They were successful at providing evidence of their comprehension with brief written responses. At the Advanced level, eighth-grade students were beginning to demonstrate more thorough and thoughtful answers when extended constructed responses were required. These Advanced students could more fully integrate prior knowledge with text interpretations.

Twelfth graders within the Basic level were able to interpret aspects of the passages they read and make connections between their reading and their own knowledge and experience. They had success in gaining explicit information from passages that were lengthy and somewhat complex. Proficient readers in the twelfth grade could make appropriate inferences and extend the meaning of text by connecting ideas and concepts in what they read with other readings, as well as their own experiences. These students were beginning to provide more extensive constructed responses demonstrating essential comprehension. At the Advanced level, twelfth graders were able to analyze texts from the perspective of both meaning and form, as well as express their understandings with detailed examples and inferences drawn from text and personal knowledge. In addition, they demonstrated the ability to integrate text and document directions to complete a task accurately and thoroughly.

At all three grades, students attending private schools -- either Catholic or other private schools -- had higher average reading proficiency than students attending public schools. Also, compared with public-school students, greater percentages of students for both types of private schools performed at or above both the Basic and Proficient achievement levels. Fewer public-school students reached the Advanced level (2 to 4 percent) than did students attending private schools other than Catholic schools (7 to 10 percent). The figures for Catholic school students were in between (4 to 7 percent).

At grade 4, performance across the regions was quite similar. At grade 8, the Southeast trailed behind the Northeast, Central, and West in average proficiency. At grade 12, the Southeast had lower average proficiency, and smaller percentages of students reached the Basic (68 percent) and Proficient (28 percent) achievement levels than in the other three regions of the country (76 to 79 and 38 to 40 percent, respectively). Across the four regions, only small percentages of students at any grade reached the Advanced achievement level (1 to 7 percent).

Among the jurisdictions in the Trial State Assessment Program, the results within states and entities mirrored the national and regional results. Across the jurisdictions, the majority of the fourth graders tended to perform at or above the Basic level, although there were exceptions. Based on statistical tests of multiple comparisons, the 14 highest-performing states had similar average reading proficiency. This higher-performing cluster of states included: New Hampshire, Maine, Massachusetts, North Dakota, Iowa, Wisconsin, Wyoming, New Jersey, Connecticut, Nebraska, Indiana, Minnesota, Virginia, and Pennsylvania.

Chapter Three

Reading Achievement for Demographic Groups for the Nation and the States

This chapter presents national and state-level results for subgroups of students as defined by race/ethnicity, gender, type of community, and level of parents' education (see Appendix B for definitions).

Performance by Race/Ethnicity

Average reading proficiency and the percentages of students at or above the three achievement levels for students in five racial/ethnic groups are presented in TABLE 3.1. These are the results for the national data for grades 4, 8, and 12.

- At grade 4, White and Asian/Pacific Islander students had higher average reading proficiency than either Hispanic or Black students. Hispanic fourth graders had higher average proficiency than Black fourth graders. Even though White fourth graders had higher average proficiency in reading than American Indian fourth graders, performance between Asian/Pacific Islander and American Indian students did not differ significantly. The performance of Asian/Pacific Islander students did not significantly differ from that of White students.

- At grade 8, White and Asian/Pacific Islander students had higher average reading proficiency than Hispanic, Black, or American Indian students. American Indian eighth graders had higher average reading proficiency than did Black eighth graders.

- At grade 12, average reading proficiency for the White and Asian/Pacific Islander students was essentially the same, but significantly higher than that for Hispanic, Black, or American Indian students. Hispanic, Black, and American Indian twelfth graders did not differ in average proficiency.

- Relatively few students -- from 0 to 6 percent -- in any racial/ethnic group at any grade achieved the Advanced level. The percentages of students reaching this level were higher among White than Black or Hispanic students at each of the three grade levels.

- At grade 4, a greater percentage of White students (31 percent) than Hispanic, Black, or American Indian students reached the Proficient level (7 to 15 percent). The percentage of Asian/Pacific Islander students reaching this level was in between (21 percent).

- At grades 8 and 12, a greater percentage of White and Asian/Pacific Islander students (from 34 to 43 percent) reached the Proficient level than did Black and Hispanic students (8 to 21 percent). At grade 8, a greater percentage of Hispanic students than Black students reached this level. At grade 12, a greater percentage of White than American Indian students performed at or above the Proficient level.

- At all three grades, the percentage of White students performing at or above the Basic level was higher than the percentage of Black, Hispanic, or American Indian students. Eighty-two percent of the White twelfth graders were estimated to have reached the Basic level, as were 77 percent of the eighth graders and 68 percent of the fourth graders. Similar percentages of Asian/Pacific Islander students achieved at the Basic level or better. In contrast, 69 percent of the Black fourth graders, 56 percent of the eighth graders, and 46 percent of the twelfth graders were estimated to have performed below the Basic level.

TABLE 3.2 presents the grade 4 data for average reading proficiency for the various racial/ethnic groups for the Trial State Assessment Program. The percentages of students achieving at or above the three achievement levels are shown in TABLE 3.3. The patterns found in the national data occurred to some degree for most participating states. However, results did vary from jurisdiction to jurisdiction.

TABLE 3.1 Average Reading Proficiency and Achievement Levels by Race/Ethnicity, Grades 4, 8, and 12, 1992 Reading Assessment

	Percentage of Students	Average Proficiency	Percentage of Students At or Above			Below Basic
			Advanced	Proficient	Basic	
Grade 4						
White	71(0.2)	226(1.2)	6(0.7)	31(1.6)	68(1.4)	**32(1.4)**
Black	16(0.1)	193(1.7)	0(0.2)	7(1.4)	31(2.3)	**69(2.3)**
Hispanic	9(0.1)	202(2.2)	2(0.6)	13(1.8)	41(2.2)	**59(2.2)**
Asian/Pacific Islander	2(0.3)	216(3.3)	2(1.3)	21(4.8)	55(5.9)	**45(5.9)**
American Indian	2(0.2)	208(4.7)	2(1.9)	15(4.7)	50(6.1)	**50(6.1)**
Grade 8						
White	70(0.2)	268(1.2)	3(0.4)	34(1.5)	77(1.1)	**23(1.1)**
Black	16(0.2)	238(1.6)	0(0.2)	8(1.0)	44(1.9)	**56(1.9)**
Hispanic	10(0.2)	242(1.4)	1(0.3)	13(1.1)	49(2.1)	**51(2.1)**
Asian/Pacific Islander	3(0.2)	270(3.1)	6(2.6)	38(4.1)	77(3.2)	**23(3.2)**
American Indian	1(0.2)	251(3.7)	1(0.9)	18(7.2)	60(5.0)	**40(5.0)**
Grade 12						
White	72(0.4)	297(0.6)	4(0.3)	43(0.9)	82(0.8)	**18(0.8)**
Black	15(0.4)	272(1.5)	0(0.2)	16(1.5)	54(2.5)	**46(2.5)**
Hispanic	9(0.4)	277(2.4)	1(0.7)	21(2.8)	61(3.2)	**39(3.2)**
Asian/Pacific Islander	4(0.2)	291(3.2)	4(1.8)	39(3.8)	74(4.1)	**26(4.1)**
American Indian	0(0.1)	272(5.3)	1(1.2)	24(6.9)	52(7.7)	**48(7.7)**

The standard errors of the estimated percentages and proficiencies appear in parentheses. It can be said with 95 percent certainty for each population of interest, the value for the whole population is within plus or minus two standard errors of the estimate for the sample. In comparing two estimates, one must use the standard error of the difference (see Appendix for details). When the proportion of students is either 0 percent or 100 percent, the standard error is inestimable. However, percentages 99.5 percent and greater were rounded to 100 percent and percentages less than 0.5 percent were rounded to 0 percent. Percentages may not add to 100 percent due to rounding error or because some students categorized themselves as "others."

SOURCE: National Assessment of Educational Progress (NAEP), 1992 Reading Assessment.

TABLE 3.2 | Average Reading Proficiency by Race/Ethnicity, Grade 4, 1992 Reading Assessment

PUBLIC SCHOOLS	White		Black		Hispanic		Asian/Pacific Islander		American Indian	
	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency
NATION	69 (0.5)	224 (1.4)	17 (0.4)	192 (1.7)	10 (0.3)	200 (2.2)	2 (0.3)	215 (3.7)	2 (0.3)	206 (5.0)
Northeast	68 (3.4)	230 (4.0)	20 (3.2)	198 (3.9)	9 (1.3)	201 (5.0)	2 (0.5)	*** (***)	1 (0.4)	*** (***)
Southeast	63 (2.7)	221 (3.4)	29 (2.6)	195 (2.4)	5 (1.1)	195 (5.1)[!]	1 (0.3)	*** (***)	1 (0.4)	*** (***)
Central	79 (1.5)	225 (1.9)	11 (1.3)	187 (3.4)	7 (1.0)	210 (4.8)	1 (0.2)	*** (***)	2 (0.4)	*** (***)
West	65 (2.1)	222 (1.8)	11 (1.6)	185 (4.5)	16 (1.9)	197 (2.7)	5 (1.4)	215 (4.2)[!]	2 (0.6)	*** (***)
STATES										
Alabama	61 (2.4)	219 (1.6)	31 (2.2)	188 (2.3)	5 (0.7)	191 (3.8)	1 (0.2)	*** (***)	2 (0.7)	*** (***)
Arizona	56 (1.9)	222 (1.2)	4 (0.6)	201 (4.4)	29 (1.6)	198 (2.1)	1 (0.3)	*** (***)	10 (1.8)	185 (3.2)
Arkansas	70 (1.8)	221 (1.1)	21 (1.5)	191 (1.8)	7 (0.7)	188 (3.8)	1 (0.2)	*** (***)	2 (0.3)	207 (4.9)
California	46 (1.9)	219 (2.0)	7 (0.8)	185 (3.3)	35 (1.6)	183 (2.8)	11 (1.1)	213 (3.2)	2 (0.3)	*** (***)
Colorado	70 (1.3)	223 (1.1)	4 (0.9)	203 (3.4)[!]	21 (0.9)	203 (2.0)	2 (0.3)	225 (6.0)	2 (0.3)	204 (4.8)
Connecticut	73 (1.7)	232 (1.0)	11 (1.3)	197 (3.2)	13 (1.1)	194 (3.5)	2 (0.3)	*** (***)	1 (0.3)	*** (***)
Delaware[*]	64 (1.1)	224 (0.8)	25 (1.0)	196 (1.7)	8 (0.5)	188 (3.3)	2 (0.3)	*** (***)	2 (0.4)	*** (***)
Dist. Columbia	5 (0.3)	241 (3.2)	83 (0.6)	186 (0.8)	9 (0.5)	178 (2.9)	1 (0.2)	*** (***)	2 (0.3)	*** (***)
Florida	57 (1.9)	220 (1.1)	21 (2.0)	186 (2.8)	18 (1.4)	202 (2.7)	2 (0.4)	*** (***)	2 (0.3)	*** (***)
Georgia	57 (1.9)	225 (1.4)	34 (1.8)	196 (2.3)	5 (0.5)	192 (5.0)	2 (0.3)	*** (***)	1 (0.2)	*** (***)
Hawaii	20 (1.5)	216 (2.7)	5 (0.6)	192 (4.8)	11 (0.9)	194 (2.9)	61 (2.3)	204 (1.9)	2 (0.3)	*** (***)
Idaho	84 (0.9)	224 (0.9)	1 (0.1)	*** (***)	11 (0.8)	202 (2.5)	1 (0.2)	*** (***)	3 (0.4)	206 (2.7)
Indiana	82 (1.4)	226 (1.2)	11 (1.4)	201 (2.4)	5 (0.6)	212 (3.7)	1 (0.1)	*** (***)	1 (0.3)	*** (***)
Iowa	88 (0.9)	228 (1.0)	3 (0.6)	211 (3.1)	6 (0.5)	212 (3.1)	2 (0.2)	*** (***)	1 (0.3)	*** (***)
Kentucky	86 (1.1)	216 (1.3)	9 (1.0)	197 (3.4)	3 (0.4)	196 (5.2)	0 (0.2)	*** (***)	1 (0.2)	*** (***)
Louisiana	51 (1.9)	217 (1.2)	41 (1.9)	191 (1.5)	5 (0.5)	188 (4.5)	1 (0.7)	*** (***)	1 (0.3)	*** (***)
Maine[*]	92 (0.6)	229 (1.1)	0 (0.1)	*** (***)	4 (0.7)	210 (3.2)	1 (0.2)	*** (***)	2 (0.3)	*** (***)
Maryland	60 (1.7)	222 (1.6)	29 (1.3)	193 (2.6)	6 (0.6)	198 (3.1)	3 (0.5)	220 (4.2)	1 (0.3)	*** (***)
Massachusetts	81 (1.2)	232 (0.9)	7 (0.6)	206 (2.8)	7 (0.6)	202 (2.2)	3 (0.7)	219 (6.5)[!]	1 (0.2)	*** (***)
Michigan	74 (1.6)	224 (1.5)	13 (1.6)	189 (3.1)	8 (0.8)	199 (2.9)	2 (0.3)	*** (***)	2 (0.3)	*** (***)
Minnesota	87 (1.2)	225 (1.2)	3 (0.5)	191 (6.1)	6 (0.6)	203 (3.6)	2 (0.5)	*** (***)	2 (0.2)	*** (***)
Mississippi	41 (2.0)	218 (1.5)	52 (2.2)	187 (1.6)	5 (1.0)	186 (3.8)	0 (0.1)	*** (***)	1 (0.3)	*** (***)
Missouri	77 (1.7)	227 (1.1)	14 (1.7)	197 (3.2)	5 (0.7)	203 (3.2)	1 (0.2)	*** (***)	2 (0.3)	*** (***)
Nebraska[*]	83 (1.2)	226 (1.2)	6 (0.6)	198 (3.2)	8 (1.1)	206 (3.0)	1 (0.2)	*** (***)	2 (0.3)	*** (***)
New Hampshire[*]	90 (1.0)	230 (1.2)	1 (0.2)	*** (***)	5 (0.6)	216 (3.2)	1 (0.2)	*** (***)	2 (0.3)	*** (***)
New Jersey[*]	67 (2.2)	234 (1.4)	14 (1.6)	201 (2.7)	13 (1.4)	199 (2.8)	5 (0.8)	235 (2.9)	1 (0.2)	*** (***)
New Mexico	45 (2.0)	224 (1.9)	3 (0.4)	202 (5.7)	46 (1.7)	201 (1.6)	1 (0.3)	*** (***)	5 (1.2)	201 (3.9)[!]
New York[*]	61 (2.0)	228 (1.2)	14 (1.8)	203 (2.8)	20 (1.8)	188 (4.1)	4 (1.0)	226 (4.3)[!]	2 (0.3)	*** (***)
North Carolina	63 (2.0)	222 (1.3)	28 (1.6)	195 (2.2)	5 (0.6)	193 (3.5)	1 (0.2)	*** (***)	3 (1.2)	204 (6.3)[!]
North Dakota	93 (1.1)	228 (1.1)	0 (0.1)	*** (***)	3 (0.5)	222 (4.9)	0 (0.2)	*** (***)	3 (0.8)	212 (4.8)[!]
Ohio	81 (1.5)	222 (1.3)	12 (1.3)	199 (2.0)	5 (0.6)	203 (4.6)	1 (0.2)	*** (***)	1 (0.2)	*** (***)
Oklahoma	72 (1.3)	225 (1.1)	8 (0.9)	202 (2.1)	8 (0.8)	209 (2.2)	1 (0.2)	*** (***)	10 (0.8)	218 (2.4)
Pennsylvania	79 (1.7)	229 (1.2)	11 (1.6)	191 (2.5)	8 (1.0)	201 (3.9)	1 (0.3)	*** (***)	1 (0.2)	*** (***)
Rhode Island	76 (2.2)	225 (1.3)	6 (1.0)	188 (3.8)	12 (1.3)	192 (4.4)	4 (0.6)	197 (4.6)	2 (0.3)	*** (***)
South Carolina	55 (1.9)	223 (1.5)	38 (2.0)	195 (1.7)	5 (0.7)	196 (2.5)	1 (0.2)	*** (***)	2 (0.3)	*** (***)
Tennessee	71 (1.8)	220 (1.4)	21 (1.6)	194 (2.3)	5 (0.7)	196 (4.5)	1 (0.3)	*** (***)	2 (0.3)	*** (***)
Texas	49 (2.1)	225 (2.1)	14 (1.7)	201 (2.6)	34 (2.3)	201 (1.8)	2 (0.3)	*** (***)	1 (0.2)	*** (***)
Utah	86 (1.1)	224 (1.0)	1 (0.1)	*** (***)	10 (0.9)	205 (2.4)	2 (0.3)	*** (***)	2 (0.5)	*** (***)
Virginia	67 (1.6)	230 (1.5)	24 (1.3)	204 (2.1)	5 (0.5)	203 (4.4)	2 (0.5)	228 (5.6)	2 (0.3)	*** (***)
West Virginia	91 (0.7)	218 (1.2)	2 (0.4)	204 (6.6)	4 (0.5)	197 (7.0)	1 (0.2)	*** (***)	2 (0.3)	*** (***)
Wisconsin	83 (1.4)	229 (1.0)	6 (0.8)	201 (2.5)	8 (0.9)	211 (3.4)	1 (0.3)	*** (***)	2 (0.8)	207 (5.1)[!]
Wyoming	83 (1.3)	227 (1.1)	1 (0.1)	*** (***)	12 (0.9)	210 (2.6)	1 (0.2)	*** (***)	4 (0.9)	212 (4.7)[!]
TERRITORY										
Guam	12 (0.8)	196 (3.1)	4 (0.4)	166 (5.6)	18 (0.8)	165 (3.0)	64 (0.9)	186 (1.4)	1 (0.3)	*** (***)

[*] Did not satisfy one or more of the guidelines for school sample participation rates (see Appendix B for details).

The standard errors of the estimated percentages and proficiencies appear in parentheses. It can be said with 95 percent certainty that for each population of interest, the value for the whole population is within plus or minus two standard errors of the estimate for the sample. In comparing two estimates, one must use the standard error of the difference (see Appendix for details). Percentages may not total 100 percent due to rounding error or because some students categorized themselves as "others." When the proportion of students is either 0 percent or 100 percent, the standard error is inestimable. However, percentages 99.5 percent and greater were rounded to 100 percent and percentages 0.5 percent and less were rounded to 0 percent. ***Sample size insufficient to permit reliable estimate. There were fewer than 62 students. [!] Interpret with caution - the nature of the sample does not allow accurate determination of the variability of this estimated statistic.

SOURCE: National Assessment of Educational Progress (NAEP), 1992 Reading Assessment.

TABLE 3.3 | Achievement Levels by Race/Ethnicity, Grade 4, 1992 Reading Assessment

PUBLIC SCHOOLS	Percentage of Students At or Above Advanced					Percentage of Students At or Above Proficient				
	White	Black	Hispanic	Asian/ Pacific Islander	American Indian	White	Black	Hispanic	Asian/ Pacific Islander	American Indian
NATION	5 (0.8)	0 (0.2)	1 (0.6)	2 (1.7)	2 (1.8)	30 (1.8)	7 (1.4)	12 (1.8)	20 (5.2)	13 (4.6)
Northeast	9 (3.3)	0 (0.3)	1 (1.6)	*** (***)	*** (***)	37 (5.2)	9 (3.0)	13 (4.9)	*** (***)	*** (***)
Southeast	5 (0.9)	1 (0.4)	0 (0.6)!	*** (***)	*** (***)	25 (3.7)	8 (2.1)	10 (2.5)!	*** (***)	*** (***)
Central	4 (1.2)	0 (0.0)	4 (2.7)	*** (***)	*** (***)	29 (2.8)	3 (1.9)	20 (5.5)	*** (***)	*** (***)
West	5 (0.8)	0 (0.0)	1 (0.8)	2 (2.2)!	*** (***)	28 (2.3)	5 (2.2)	9 (1.5)	17 (6.5)!	*** (***)
STATES										
Alabama	3 (0.5)	0 (0.1)	0 (0.4)	*** (***)	*** (***)	24 (1.7)	4 (1.0)	6 (3.2)	*** (***)	*** (***)
Arizona	3 (0.7)	2 (1.2)	0 (0.4)	*** (***)	0 (0.4)	25 (1.7)	14 (4.1)	8 (1.2)	*** (***)	5 (1.7)
Arkansas	4 (0.6)	0 (0.5)	0 (0.3)	*** (***)	0 (0.0)	25 (1.6)	5 (1.2)	6 (2.1)	*** (***)	14 (4.1)
California	4 (0.8)	1 (0.8)	0 (0.4)	5 (1.6)	*** (***)	27 (2.3)	8 (2.3)	5 (1.4)	22 (2.8)	*** (***)
Colorado	3 (0.6)	0 (0.4)!	1 (0.5)	6 (4.8)	2 (2.1)	26 (1.6)	9 (3.3)!	10 (1.5)	33 (8.7)	14 (5.0)
Connecticut	6 (1.1)	1 (0.9)	0 (0.7)	*** (***)	*** (***)	37 (1.5)	7 (2.5)	6 (1.4)	*** (***)	*** (***)
Delaware*	5 (0.5)	0 (0.4)	0 (0.2)	*** (***)	*** (***)	28 (1.5)	7 (1.5)	6 (2.5)	*** (***)	*** (***)
Dist. Columbia	17 (3.9)	0 (0.2)	1 (1.0)	*** (***)	*** (***)	52 (4.9)	6 (0.6)	6 (1.9)	*** (***)	*** (***)
Florida	3 (0.5)	0 (0.3)	1 (0.8)	*** (***)	*** (***)	25 (1.6)	6 (1.5)	12 (2.2)	*** (***)	*** (***)
Georgia	5 (0.9)	1 (0.5)	2 (1.1)	*** (***)	*** (***)	31 (1.9)	8 (1.2)	13 (3.5)	*** (***)	*** (***)
Hawaii	3 (1.1)	1 (1.0)	1 (1.0)	2 (0.4)	*** (***)	22 (3.6)	9 (3.8)	9 (2.2)	14 (1.5)	*** (***)
Idaho	3 (0.6)	*** (***)	0 (0.4)	*** (***)	2 (1.6)	27 (1.4)	*** (***)	6 (2.4)	*** (***)	10 (4.2)
Indiana	4 (0.7)	1 (0.7)	3 (2.0)	*** (***)	*** (***)	30 (1.6)	8 (2.1)	19 (4.4)	*** (***)	*** (***)
Iowa	5 (0.6)	1 (1.7)	2 (1.4)	*** (***)	*** (***)	33 (1.5)	14 (4.4)	15 (3.6)	*** (***)	*** (***)
Kentucky	3 (0.6)	0 (0.4)	2 (1.4)	*** (***)	*** (***)	21 (1.5)	6 (2.5)	11 (4.4)	*** (***)	*** (***)
Louisiana	2 (0.6)	0 (0.2)	0 (0.9)	*** (***)	*** (***)	20 (1.4)	5 (0.7)	5 (2.3)	*** (***)	*** (***)
Maine*	4 (0.7)	*** (***)	0 (0.6)	*** (***)	*** (***)	33 (1.8)	*** (***)	11 (4.3)	*** (***)	*** (***)
Maryland	4 (0.6)	1 (0.4)	1 (0.8)	6 (3.0)	*** (***)	28 (1.6)	7 (1.2)	10 (2.9)	32 (5.4)	*** (***)
Massachusetts	5 (0.8)	0 (0.5)	0 (0.5)	3 (3.2)!	*** (***)	36 (1.7)	9 (2.8)	8 (2.3)	24 (8.1)!	*** (***)
Michigan	3 (0.6)	0 (0.2)	0 (0.6)	*** (***)	*** (***)	27 (2.1)	5 (2.0)	8 (2.9)	*** (***)	*** (***)
Minnesota	4 (0.5)	0 (1.3)	1 (0.8)	*** (***)	*** (***)	30 (1.4)	4 (3.0)	12 (3.8)	*** (***)	*** (***)
Mississippi	3 (0.7)	0 (0.1)	0 (0.6)	*** (***)	*** (***)	22 (1.5)	4 (0.6)	2 (1.7)	*** (***)	*** (***)
Missouri	5 (0.5)	1 (0.6)	0 (0.0)	*** (***)	*** (***)	31 (1.7)	7 (1.6)	10 (2.9)	*** (***)	*** (***)
Nebraska*	5 (0.8)	0 (0.0)	1 (1.2)	*** (***)	*** (***)	30 (1.9)	8 (2.4)	13 (3.4)	*** (***)	*** (***)
New Hampshire*	6 (0.7)	*** (***)	2 (1.7)	*** (***)	*** (***)	35 (1.6)	*** (***)	20 (4.2)	*** (***)	*** (***)
New Jersey*	7 (1.4)	1 (1.0)	2 (1.2)	6 (2.8)	*** (***)	39 (2.1)	9 (1.9)	11 (2.4)	43 (5.6)	*** (***)
New Mexico	5 (1.1)	1 (1.4)	1 (0.4)	*** (***)	0 (0.0)!	30 (2.8)	9 (6.2)	11 (1.1)	*** (***)	6 (3.6)!
New York*	5 (0.9)	1 (1.1)	0 (0.4)	6 (3.4)!	*** (***)	32 (1.5)	10 (2.2)	7 (1.7)	31 (6.3)!	*** (***)
North Carolina	6 (0.8)	1 (0.4)	1 (1.1)	*** (***)	3 (3.8)!	29 (1.7)	8 (1.7)	12 (3.4)	*** (***)	17 (4.9)!
North Dakota	4 (0.7)	*** (***)	5 (3.5)	*** (***)	1 (0.5)!	31 (1.6)	*** (***)	24 (6.7)	*** (***)	15 (5.5)!
Ohio	4 (0.5)	1 (0.6)	2 (1.5)	*** (***)	*** (***)	27 (1.6)	8 (2.2)	13 (4.9)	*** (***)	*** (***)
Oklahoma	3 (0.6)	0 (0.5)	0 (0.8)	*** (***)	2 (1.4)	29 (1.4)	8 (1.9)	12 (2.6)	*** (***)	22 (3.1)
Pennsylvania	5 (0.8)	0 (0.3)	2 (0.9)	*** (***)	*** (***)	33 (1.6)	6 (1.5)	13 (3.0)	*** (***)	*** (***)
Rhode Island	4 (0.5)	1 (1.2)	0 (0.4)	3 (2.0)	*** (***)	29 (2.0)	6 (2.6)	7 (1.7)	13 (4.2)	*** (***)
South Carolina	4 (0.8)	0 (0.2)	0 (0.9)	*** (***)	*** (***)	28 (1.6)	6 (1.1)	9 (3.6)	*** (***)	*** (***)
Tennessee	3 (0.6)	0 (0.4)	1 (1.2)	*** (***)	*** (***)	25 (1.7)	6 (1.1)	11 (3.4)	*** (***)	*** (***)
Texas	5 (0.8)	1 (0.5)	1 (0.4)	*** (***)	*** (***)	30 (2.4)	7 (1.7)	10 (1.5)	*** (***)	*** (***)
Utah	4 (0.6)	*** (***)	1 (0.9)	*** (***)	*** (***)	28 (1.3)	*** (***)	11 (2.5)	*** (***)	*** (***)
Virginia	7 (1.1)	1 (0.5)	1 (1.0)	5 (3.0)	*** (***)	35 (1.8)	10 (1.6)	10 (3.1)	36 (9.2)	*** (***)
West Virginia	4 (0.5)	2 (2.7)	2 (2.0)	*** (***)	*** (***)	23 (1.4)	10 (4.9)	13 (4.5)	*** (***)	*** (***)
Wisconsin	5 (0.6)	1 (0.7)	1 (1.1)	*** (***)	1 (1.5)!	33 (1.2)	7 (2.8)	14 (2.5)	*** (***)	13 (5.5)!
Wyoming	4 (0.6)	*** (***)	1 (0.8)	*** (***)	2 (2.3)!	31 (1.8)	*** (***)	14 (2.3)	*** (***)	15 (5.3)!
TERRITORY										
Guam	1 (0.8)	1 (1.5)	0 (0.3)	1 (0.3)	*** (***)	13 (1.6)	4 (2.4)	3 (1.3)	6 (1.0)	*** (***)

*Did not satisfy one or more of the guidelines for school sample participation rates (see Appendix B for details).

The standard errors of the estimated percentages appear in parentheses. It can be said with 95 percent certainty that for each population of interest, the value for the whole population is within plus or minus two standard errors of the estimate for the sample. In comparing two estimates, one must use the standard error of the difference (see Appendix for details). When the proportion of students is either 0 percent or 100 percent, the standard error is inestimable. However, percentages 99.5 percent and greater were rounded to 100 percent and percentages 0.5 percent and less were rounded to 0 percent. ***Sample size insufficient to permit reliable estimate. There were fewer than 62 students. !Interpret with caution - the nature of the sample does not allow accurate determination of the variability of this estimated statistic.

SOURCE: National Assessment of Educational Progress (NAEP), 1992 Reading Assessment.

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TABLE 3.3 | Achievement Levels by Race/Ethnicity, Grade 4, 1992 Reading Assessment (continued)

PUBLIC SCHOOLS	Percentage of Students At or Above Basic					Percentage of Students Below Basic				
	White	Black	Hispanic	Asian/ Pacific Islander	American Indian	White	Black	Hispanic	Asian/ Pacific Islander	American Indian
NATION	66 (1.5)	30 (2.0)	39 (2.1)	55 (6.5)	49 (6.4)	34 (1.5)	70 (2.0)	61 (2.1)	45 (6.5)	51 (6.4)
Northeast	72 (3.5)	34 (5.3)	41 (6.3)	*** (***)	*** (***)	28 (3.5)	66 (5.3)	59 (6.3)	*** (***)	*** (***)
Southeast	63 (4.7)	31 (3.7)	36 (4.7)!	*** (***)	*** (***)	37 (4.7)	69 (3.7)	64 (4.7)!	*** (***)	*** (***)
Central	68 (2.0)	26 (4.5)	50 (6.2)	*** (***)	*** (***)	32 (2.0)	74 (4.5)	50 (6.2)	*** (***)	*** (***)
West	63 (2.4)	24 (4.2)	34 (2.5)	53 (9.2)!	*** (***)	37 (2.4)	76 (4.2)	66 (2.5)	47 (9.2)!	*** (***)
STATES										
Alabama	60 (2.2)	25 (2.4)	29 (5.2)	*** (***)	*** (***)	40 (2.2)	75 (2.4)	71 (5.2)	*** (***)	*** (***)
Arizona	64 (1.6)	40 (5.8)	37 (2.3)	*** (***)	22 (4.7)	36 (1.6)	60 (5.8)	63 (2.3)	*** (***)	78 (4.7)
Arkansas	63 (1.7)	26 (1.8)	29 (5.4)	*** (***)	48 (7.5)	37 (1.7)	74 (1.8)	71 (5.4)	*** (***)	52 (7.5)
California	62 (3.0)	26 (4.5)	24 (2.5)	53 (4.0)	*** (***)	38 (3.0)	74 (4.5)	76 (2.5)	47 (4.0)	*** (***)
Colorado	67 (1.7)	45 (7.1)!	42 (2.8)	65 (8.6)	45 (7.8)	33 (1.7)	55 (7.1)!	58 (2.8)	35 (8.6)	55 (7.8)
Connecticut	77 (1.4)	30 (5.2)	33 (3.9)	*** (***)	*** (***)	23 (1.4)	70 (5.2)	67 (3.9)	*** (***)	*** (***)
Delaware	65 (1.6)	32 (2.2)	26 (4.5)	*** (***)	*** (***)	35 (1.6)	68 (2.2)	74 (4.5)	*** (***)	*** (***)
Dist. Columbia	81 (4.3)	25 (1.2)	20 (2.8)	*** (***)	*** (***)	19 (4.3)	75 (1.2)	80 (2.8)	*** (***)	*** (***)
Florida	62 (1.6)	24 (2.9)	39 (3.3)	*** (***)	*** (***)	38 (1.6)	76 (2.9)	61 (3.3)	*** (***)	*** (***)
Georgia	67 (1.9)	32 (3.0)	32 (5.6)	*** (***)	*** (***)	33 (1.9)	68 (3.0)	68 (5.6)	*** (***)	*** (***)
Hawaii	59 (3.7)	29 (4.9)	32 (3.7)	43 (2.2)	*** (***)	41 (3.7)	71 (4.9)	68 (3.7)	57 (2.2)	*** (***)
Idaho	67 (1.4)	*** (***)	39 (3.9)	*** (***)	42 (5.5)	33 (1.4)	*** (***)	61 (3.9)	*** (***)	58 (5.5)
Indiana	69 (1.7)	37 (3.4)	51 (4.7)	*** (***)	*** (***)	31 (1.7)	63 (3.4)	49 (4.7)	*** (***)	*** (***)
Iowa	72 (1.5)	49 (6.5)	54 (4.7)	*** (***)	*** (***)	28 (1.5)	51 (6.5)	46 (4.7)	*** (***)	*** (***)
Kentucky	58 (1.7)	35 (4.2)	31 (7.5)	*** (***)	*** (***)	42 (1.7)	65 (4.2)	69 (7.5)	*** (***)	*** (***)
Louisiana	58 (2.0)	25 (2.0)	30 (6.0)	*** (***)	*** (***)	42 (2.0)	75 (2.0)	70 (6.0)	*** (***)	*** (***)
Maine	73 (1.4)	*** (***)	47 (6.3)	*** (***)	*** (***)	27 (1.4)	*** (***)	53 (6.3)	*** (***)	*** (***)
Maryland	65 (1.8)	32 (3.1)	37 (3.7)	61 (6.5)	*** (***)	35 (1.8)	68 (3.1)	63 (3.7)	39 (6.5)	*** (***)
Massachusetts	77 (1.2)	44 (4.4)	39 (4.0)	58 (9.7)!	*** (***)	23 (1.2)	56 (4.4)	61 (4.0)	42 (9.7)!	*** (***)
Michigan	68 (2.1)	22 (2.6)	39 (4.8)	*** (***)	*** (***)	32 (2.1)	78 (2.6)	61 (4.8)	*** (***)	*** (***)
Minnesota	68 (1.6)	26 (6.1)	42 (5.5)	*** (***)	*** (***)	32 (1.6)	74 (6.1)	58 (5.5)	*** (***)	*** (***)
Mississippi	60 (2.2)	22 (1.8)	20 (4.1)	*** (***)	*** (***)	40 (2.2)	78 (1.8)	80 (4.1)	*** (***)	*** (***)
Missouri	71 (1.6)	33 (3.1)	38 (4.5)	*** (***)	*** (***)	29 (1.6)	67 (3.1)	62 (4.5)	*** (***)	*** (***)
Nebraska	70 (1.6)	32 (4.4)	45 (4.9)	*** (***)	*** (***)	30 (1.6)	68 (4.4)	55 (4.9)	*** (***)	*** (***)
New Hampshire	74 (2.0)	*** (***)	59 (5.8)	*** (***)	*** (***)	26 (2.0)	*** (***)	41 (5.8)	*** (***)	*** (***)
New Jersey	78 (1.6)	36 (3.8)	35 (4.6)	80 (4.7)	*** (***)	22 (1.6)	64 (3.8)	65 (4.6)	20 (4.7)	*** (***)
New Mexico	66 (2.2)	38 (7.1)	39 (2.3)	*** (***)	38 (6.2)!	34 (2.2)	62 (7.1)	61 (2.3)	*** (***)	62 (6.2)!
New York	71 (1.6)	40 (2.9)	30 (3.1)	66 (7.1)!	*** (***)	29 (1.6)	60 (2.9)	70 (3.1)	34 (7.1)!	*** (***)
North Carolina	64 (1.6)	33 (2.5)	34 (4.5)	*** (***)	38 (9.7)!	36 (1.6)	67 (2.5)	66 (4.5)	*** (***)	62 (9.7)!
North Dakota	72 (1.8)	*** (***)	68 (9.0)	*** (***)	53 (8.4)!	28 (1.8)	*** (***)	32 (9.0)	*** (***)	47 (8.4)!
Ohio	65 (1.8)	34 (3.2)	42 (6.7)	*** (***)	*** (***)	35 (1.8)	66 (3.2)	58 (6.7)	*** (***)	*** (***)
Oklahoma	69 (1.5)	36 (4.0)	47 (4.4)	*** (***)	58 (4.0)	31 (1.5)	64 (4.0)	53 (4.4)	*** (***)	42 (4.0)
Pennsylvania	73 (1.8)	26 (3.5)	38 (4.5)	*** (***)	*** (***)	27 (1.8)	74 (3.5)	62 (4.5)	*** (***)	*** (***)
Rhode Island	68 (1.7)	23 (3.7)	30 (4.7)	37 (5.3)	*** (***)	32 (1.7)	77 (3.7)	70 (4.7)	63 (5.3)	*** (***)
South Carolina	64 (2.4)	31 (2.2)	29 (4.5)	*** (***)	*** (***)	36 (2.4)	69 (2.2)	71 (4.5)	*** (***)	*** (***)
Tennessee	62 (1.6)	29 (3.2)	36 (5.4)	*** (***)	*** (***)	38 (1.6)	71 (3.2)	64 (5.4)	*** (***)	*** (***)
Texas	68 (2.4)	35 (4.5)	38 (2.5)	*** (***)	*** (***)	32 (2.4)	65 (4.5)	62 (2.5)	*** (***)	*** (***)
Utah	67 (1.5)	*** (***)	41 (3.5)	*** (***)	*** (***)	33 (1.5)	*** (***)	59 (3.5)	*** (***)	*** (***)
Virginia	73 (1.9)	40 (3.4)	41 (5.6)	74 (7.9)	*** (***)	27 (1.9)	60 (3.4)	59 (5.6)	26 (7.9)	*** (***)
West Virginia	59 (1.4)	37 (8.4)	36 (6.3)	*** (***)	*** (***)	41 (1.4)	63 (8.4)	64 (6.3)	*** (***)	*** (***)
Wisconsin	72 (1.4)	36 (5.3)	52 (4.7)	*** (***)	46 (9.4)!	28 (1.4)	64 (5.3)	48 (4.7)	*** (***)	54 (9.4)!
Wyoming	72 (1.7)	*** (***)	50 (4.5)	*** (***)	50 (7.6)!	28 (1.7)	*** (***)	50 (4.5)	*** (***)	50 (7.6)!
TERRITORY										
Guam	39 (3.6)	17 (5.8)	16 (2.0)	26 (1.5)	*** (***)	61 (3.6)	83 (5.8)	84 (2.0)	74 (1.5)	*** (***)

Performance by Gender

The national data for average reading proficiency and achievement levels for male and female students in grades 4, 8, and 12 are presented in TABLE 3.4.

- Females had higher average reading proficiency than males at all three grades.
- Greater percentages of females than males reached each of three achievement levels at all three grades. Across the grades, the gender gaps favoring females were 10 to 12 percent at the Basic level, 6 to 11 percent at the Proficient level, and 2 percent at the Advanced level. For example, 80 percent of the twelfth-grade females were estimated to have achieved at or above the Basic level, compared to 70 percent of the males. Forty-two percent of the twelfth-grade females, compared to 31 percent of the males, reached the Proficient level, and 4 percent compared to 2 percent reached the Advanced level.

The corresponding state-by-state results by gender are found in TABLES 3.5 and 3.6. The pattern of females having higher achievement than males also pervades the results for the Trial State Assessment Program at grade 4.

TABLE 3.4 Average Reading Proficiency and Achievement Levels by Gender, Grades 4, 8, and 12, 1992 Reading Assessment

	Percentage of Students	Average Proficiency	Percentage of Students At or Above			Below Basic
			Advanced	Proficient	Basic	
Grade 4						
Male	51(0.6)	214(1.2)	4(0.6)	22(1.2)	54(1.7)	**46(1.7)**
Female	49(0.6)	222(1.0)	6(0.7)	28(1.5)	64(1.3)	**36(1.3)**
Grade 8						
Male	51(0.7)	254(1.1)	1(0.3)	22(1.2)	63(1.2)	**37(1.2)**
Female	49(0.7)	267(1.0)	3(0.5)	33(1.4)	75(1.1)	**25(1.1)**
Grade 12						
Male	49(0.6)	286(0.7)	2(0.3)	31(1.1)	70(1.1)	**30(1.1)**
Female	51(0.6)	296(0.7)	4(0.4)	42(1.2)	80(0.9)	**20(0.9)**

The standard errors of the estimated percentages and proficiencies appear in parentheses. It can be said with 95 percent certainty for each population of interest, the value for the whole population is within plus or minus two standard errors of the estimate for the sample. In comparing two estimates, one must use the standard error of the difference (see Appendix for details).

SOURCE: National Assessment of Educational Progress (NAEP), 1992 Reading Assessment.

TABLE 3.5 | Average Reading Proficiency by Gender, Grade 4, 1992 Reading Assessment

PUBLIC SCHOOLS	Male		Female	
	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency
NATION	51 (0.7)	212 (1.4)	49 (0.7)	220 (1.1)
Northeast	50 (2.0)	218 (4.7)	50 (2.0)	224 (3.6)
Southeast	49 (1.3)	205 (3.0)	51 (1.3)	217 (2.6)
Central	54 (1.1)	217 (1.6)	46 (1.1)	221 (2.4)
West	52 (1.4)	208 (2.6)	48 (1.4)	218 (1.4)
STATES				
Alabama	52 (1.1)	205 (1.7)	48 (1.1)	212 (2.0)
Arizona	48 (1.0)	206 (1.5)	52 (1.0)	214 (1.4)
Arkansas	50 (1.0)	209 (1.6)	50 (1.0)	215 (1.4)
California	49 (1.1)	198 (2.4)	51 (1.1)	208 (2.2)
Colorado	51 (1.0)	215 (1.3)	49 (1.0)	221 (1.5)
Connecticut	51 (1.3)	220 (1.5)	49 (1.3)	226 (1.6)
Delaware*	50 (1.1)	210 (1.2)	50 (1.1)	218 (1.0)
Dist. Columbia	50 (1.0)	186 (1.3)	50 (1.0)	191 (1.0)
Florida	51 (0.9)	206 (1.5)	49 (0.9)	212 (1.4)
Georgia	51 (1.1)	211 (1.8)	49 (1.1)	216 (1.7)
Hawaii	51 (0.9)	199 (2.1)	49 (0.9)	210 (1.8)
Idaho	50 (1.1)	218 (1.1)	50 (1.1)	223 (1.2)
Indiana	50 (1.2)	220 (1.5)	50 (1.2)	225 (1.5)
Iowa	50 (0.8)	223 (1.4)	50 (0.8)	230 (1.1)
Kentucky	53 (1.0)	210 (1.6)	47 (1.0)	217 (1.4)
Louisiana	50 (0.9)	201 (1.5)	50 (0.9)	208 (1.3)
Maine*	48 (1.4)	226 (1.2)	52 (1.4)	230 (1.5)
Maryland	49 (1.0)	208 (1.9)	51 (1.0)	216 (1.8)
Massachusetts	50 (0.9)	226 (1.2)	50 (0.9)	229 (1.1)
Michigan	50 (1.1)	215 (1.9)	50 (1.1)	219 (1.6)
Minnesota	51 (1.3)	219 (1.5)	49 (1.3)	226 (1.4)
Mississippi	52 (1.0)	197 (1.8)	48 (1.0)	203 (1.3)
Missouri	50 (0.9)	219 (1.4)	50 (0.9)	224 (1.5)
Nebraska*	52 (1.3)	219 (1.4)	48 (1.3)	226 (1.3)
New Hampshire*	51 (1.0)	226 (1.5)	49 (1.0)	233 (1.2)
New Jersey*	50 (1.1)	222 (1.7)	50 (1.1)	227 (1.8)
New Mexico	50 (0.8)	209 (1.6)	50 (0.8)	214 (1.8)
New York*	52 (1.1)	213 (1.9)	48 (1.1)	219 (1.7)
North Carolina	51 (0.9)	210 (1.4)	49 (0.9)	216 (1.4)
North Dakota	51 (1.2)	225 (1.4)	49 (1.2)	228 (1.4)
Ohio	50 (1.0)	215 (1.7)	50 (1.0)	222 (1.5)
Oklahoma	49 (1.0)	219 (1.2)	51 (1.0)	224 (1.1)
Pennsylvania	48 (1.2)	219 (1.6)	52 (1.2)	225 (1.5)
Rhode Island	51 (1.3)	216 (2.1)	49 (1.3)	220 (2.0)
South Carolina	48 (0.9)	207 (1.5)	52 (0.9)	214 (1.6)
Tennessee	50 (1.1)	210 (1.6)	50 (1.1)	216 (1.6)
Texas	52 (1.2)	210 (1.7)	48 (1.2)	217 (1.9)
Utah	48 (1.0)	218 (1.5)	52 (1.0)	225 (1.2)
Virginia	51 (0.9)	218 (1.8)	49 (0.9)	226 (1.4)
West Virginia	51 (0.8)	212 (1.4)	49 (0.8)	221 (1.6)
Wisconsin	50 (0.9)	222 (1.2)	50 (0.9)	228 (1.2)
Wyoming	51 (0.9)	221 (1.6)	49 (0.9)	227 (1.0)
TERRITORY				
Guam	52 (1.2)	175 (1.9)	48 (1.2)	190 (1.5)

*Did not satisfy one or more of the guidelines for school sample participation rates (see Appendix B for details).

The standard errors of the estimated percentages and proficiencies appear in parentheses. It can be said with 95 percent certainty that for each population of interest, the value for the whole population is within plus or minus two standard errors of the estimate for the sample. In comparing two estimates, one must use the standard error of the difference (see Appendix for details).

SOURCE: National Assessment of Educational Progress (NAEP), 1992 Reading Assessment.

TABLE 3.6 | Achievement Levels by Gender, Grade 4, 1992 Reading Assessment

PUBLIC SCHOOLS	Percentage of Students At or Above Advanced		Percentage of Students At or Above Proficient		Percentage of Students At or Above Basic		Percentage of Students Below Basic	
	Male	Female	Male	Female	Male	Female	Male	Female
NATION	3 (0.6)	5 (0.8)	21 (1.4)	26 (1.6)	53 (1.8)	61 (1.5)	47 (1.8)	39 (1.5)
Northeast	5 (2.5)	7 (2.7)	27 (5.5)	32 (4.4)	58 (5.0)	65 (4.2)	42 (5.0)	35 (4.2)
Southeast	2 (0.9)	4 (1.1)	16 (2.0)	22 (3.3)	45 (4.0)	58 (4.1)	55 (4.0)	42 (4.1)
Central	3 (1.2)	5 (1.2)	24 (2.7)	26 (2.9)	59 (3.0)	64 (3.2)	41 (3.0)	36 (3.2)
West	2 (0.9)	4 (1.4)	18 (2.0)	25 (2.0)	48 (3.0)	59 (2.3)	52 (3.0)	41 (2.3)
STATES								
Alabama	2 (0.5)	3 (0.5)	14 (1.4)	20 (1.8)	44 (2.2)	52 (2.4)	56 (2.2)	48 (2.4)
Arizona	1 (0.4)	3 (0.5)	14 (1.5)	21 (1.6)	47 (2.2)	55 (1.9)	53 (2.2)	45 (1.9)
Arkansas	2 (0.6)	3 (0.6)	17 (1.2)	22 (1.8)	49 (2.3)	56 (2.0)	51 (2.3)	44 (2.0)
California	2 (0.5)	4 (0.9)	14 (1.8)	20 (1.9)	41 (2.5)	49 (2.8)	59 (2.5)	51 (2.8)
Colorado	2 (0.5)	3 (0.5)	19 (1.6)	25 (1.8)	57 (2.3)	63 (2.1)	43 (2.3)	37 (2.1)
Connecticut	3 (0.6)	6 (1.5)	26 (1.6)	33 (1.8)	63 (2.3)	68 (2.3)	37 (2.3)	32 (2.3)
Delaware*	2 (0.5)	4 (0.7)	18 (1.6)	24 (1.7)	49 (1.7)	59 (2.0)	51 (1.7)	41 (2.0)
Dist. Columbia	1 (0.4)	2 (0.3)	7 (0.9)	9 (0.9)	26 (1.4)	29 (1.4)	74 (1.4)	71 (1.4)
Florida	2 (0.7)	2 (0.4)	17 (1.5)	19 (1.4)	46 (2.1)	53 (2.0)	54 (2.1)	47 (2.0)
Georgia	3 (0.6)	4 (0.8)	20 (1.7)	24 (2.0)	51 (2.3)	56 (2.3)	49 (2.3)	44 (2.3)
Hawaii	2 (0.4)	2 (0.4)	12 (1.4)	17 (1.7)	39 (2.3)	50 (2.3)	61 (2.3)	50 (2.3)
Idaho	2 (0.5)	4 (0.9)	22 (1.4)	26 (1.8)	60 (1.4)	66 (1.8)	40 (1.4)	34 (1.8)
Indiana	3 (0.7)	4 (1.0)	25 (1.6)	29 (1.9)	60 (2.2)	68 (2.1)	40 (2.2)	32 (2.1)
Iowa	3 (0.7)	6 (1.0)	28 (1.6)	35 (2.0)	66 (1.9)	74 (1.5)	34 (1.9)	26 (1.5)
Kentucky	2 (0.6)	3 (0.7)	18 (1.7)	21 (1.7)	51 (2.1)	59 (2.0)	49 (2.1)	41 (2.0)
Louisiana	1 (0.4)	2 (0.4)	11 (1.6)	14 (1.4)	39 (2.2)	46 (1.9)	61 (2.2)	54 (1.9)
Maine*	3 (0.7)	6 (1.1)	30 (1.7)	33 (2.4)	69 (2.2)	75 (1.8)	31 (2.2)	25 (1.8)
Maryland	2 (0.5)	4 (0.7)	17 (1.3)	24 (1.7)	48 (2.1)	58 (2.3)	52 (2.1)	42 (2.3)
Massachusetts	4 (0.7)	5 (0.9)	30 (2.0)	34 (1.7)	70 (1.7)	72 (1.9)	30 (1.7)	28 (1.9)
Michigan	2 (0.7)	3 (0.8)	21 (2.1)	24 (2.2)	56 (2.5)	62 (2.1)	44 (2.5)	38 (2.1)
Minnesota	2 (0.5)	5 (0.8)	24 (1.7)	32 (2.1)	62 (2.0)	68 (1.9)	38 (2.0)	32 (1.9)
Mississippi	1 (0.3)	2 (0.4)	10 (0.9)	13 (1.0)	35 (2.1)	41 (2.4)	65 (2.1)	59 (2.4)
Missouri	3 (0.6)	5 (0.8)	24 (1.6)	29 (2.1)	60 (2.1)	66 (1.9)	40 (2.1)	34 (1.9)
Nebraska*	3 (0.8)	5 (0.9)	24 (1.6)	30 (2.3)	61 (2.2)	69 (1.7)	39 (2.2)	31 (1.7)
New Hampshire*	5 (0.9)	7 (1.1)	30 (2.1)	37 (1.9)	69 (2.4)	77 (2.4)	31 (2.4)	23 (2.4)
New Jersey*	4 (0.9)	7 (1.3)	27 (1.9)	34 (2.6)	63 (2.5)	69 (2.4)	37 (2.5)	31 (2.4)
New Mexico	3 (0.6)	3 (0.8)	18 (1.7)	21 (2.2)	48 (2.2)	54 (1.9)	52 (2.2)	46 (1.9)
New York*	3 (0.6)	4 (0.7)	21 (1.6)	26 (1.6)	55 (1.9)	61 (2.2)	45 (1.9)	39 (2.2)
North Carolina	4 (0.7)	4 (0.7)	20 (1.2)	23 (1.7)	51 (1.8)	55 (1.9)	49 (1.8)	45 (1.9)
North Dakota	4 (0.9)	5 (1.1)	29 (2.0)	33 (2.0)	69 (2.4)	73 (2.2)	31 (2.4)	27 (2.2)
Ohio	2 (0.5)	5 (0.7)	20 (1.8)	27 (2.1)	56 (2.3)	64 (2.0)	44 (2.3)	36 (2.0)
Oklahoma	2 (0.5)	3 (0.7)	22 (1.3)	28 (1.5)	61 (1.8)	67 (1.6)	39 (1.8)	33 (1.6)
Pennsylvania	3 (0.6)	5 (1.0)	25 (2.1)	30 (1.7)	61 (2.2)	68 (2.4)	39 (2.2)	32 (2.4)
Rhode Island	3 (0.6)	4 (0.7)	22 (1.9)	26 (2.4)	57 (2.7)	62 (2.3)	43 (2.7)	38 (2.3)
South Carolina	2 (0.6)	3 (0.7)	17 (1.2)	20 (1.7)	45 (2.0)	53 (2.4)	55 (2.0)	47 (2.4)
Tennessee	2 (0.7)	3 (0.6)	18 (1.8)	22 (1.7)	50 (1.9)	56 (2.2)	50 (1.9)	44 (2.2)
Texas	2 (0.7)	4 (0.8)	17 (1.9)	23 (2.2)	50 (2.5)	57 (2.4)	50 (2.5)	43 (2.4)
Utah	3 (0.5)	4 (0.7)	23 (1.7)	29 (1.4)	59 (2.1)	68 (1.9)	41 (2.1)	32 (1.9)
Virginia	4 (0.7)	6 (1.0)	24 (1.9)	31 (1.8)	59 (2.5)	68 (1.9)	41 (2.5)	32 (1.9)
West Virginia	2 (0.5)	5 (0.9)	18 (1.6)	26 (1.8)	53 (1.9)	62 (1.8)	47 (1.9)	38 (1.8)
Wisconsin	3 (0.7)	5 (0.9)	25 (1.4)	33 (1.7)	64 (1.7)	70 (1.9)	36 (1.7)	30 (1.9)
Wyoming	3 (0.8)	4 (0.6)	26 (2.2)	31 (1.5)	64 (2.1)	72 (1.6)	36 (2.1)	28 (1.6)
TERRITORY								
Guam	0 (0.2)	1 (0.4)	4 (0.8)	9 (1.4)	20 (1.5)	31 (1.8)	80 (1.5)	69 (1.8)

*Did not satisfy one or more of the guidelines for school sample participation rates (see Appendix B for details).

The standard errors of the estimated percentages and proficiencies appear in parentheses. It can be said with 95 percent certainty that for each population of interest, the value for the whole population is within plus or minus two standard errors of the estimate for the sample. In comparing two estimates, one must use the standard error of the difference (see Appendix for details). When the proportion of students is either 0 percent or 100 percent, the standard error is inestimable. However, percentages 99.5 percent and greater were rounded to 100 percent and percentages 0.5 percent and less were rounded to 0 percent.

SOURCE: National Assessment of Educational Progress (NAEP), 1992 Reading Assessment.

Performance by Type of Community

Average reading proficiency and achievement levels for the nation by type of community for grades 4, 8, and 12 are shown in TABLE 3.7. Students were classified by the type of community in which their schools were located and by principals' reports of the percentages of students in their schools whose parents were classified into various occupational categories. The advantaged urban category represents about 10 percent of the students at each grade attending schools in suburban and urban communities where larger proportions of students' parents had professional or managerial jobs. Similarly, the disadvantaged urban category represents another 10 percent of the students, who attended schools in suburban and urban locales where high proportions of the parents were on welfare or not regularly employed. The extreme rural category includes the approximately 10 percent of students attending schools in the most rural areas, where many of the parents were farmers or farm workers. The 70 percent of students not falling into one of these three "extreme" community categories were classified as attending schools in "other" types of communities.

- At grade 4, students attending schools in advantaged urban communities had higher average proficiency than students attending schools in extreme rural, disadvantaged urban, or communities classified as other. Students in extreme rural and other communities had higher average proficiency than those in disadvantaged urban communities.

- This pattern held for the percentages of fourth graders reaching each of the achievement levels. Seventy-five percent of the fourth graders attending disadvantaged urban schools were estimated to have performed below the Basic level, compared to 18 percent of the fourth graders in advantaged urban schools. Conversely, 82 percent of the fourth graders in advantaged urban schools, compared to 25 percent in disadvantaged urban schools, reached the Basic level. Continuing these comparisons, 48 versus 5 percent reached the Proficient level and 12 compared to 0 percent reached the Advanced level, respectively.

- At grades 8 and 12, the results were similar. Students in advantaged urban schools had higher average proficiency than those in the remaining types of communities, and students in disadvantaged urban communities had lower average proficiency than students in any of the other three types of communities.

- The advantaged urban students outperformed the disadvantaged urban students at each achievement level. At grade 8, 87 compared to 43 percent reached the Basic level, 50 compared to 9 percent reached the Proficient level, and 5 compared to 0 percent reached the Advanced level, respectively. At grade 12, 86 compared to 57 percent reached the Basic level, 52 compared to 20 percent reached the Proficient level, and 6 compared to 1 percent reached the Advanced level.

TABLE 3.8 presents the state results for the average reading proficiency for fourth graders attending public schools in the various types of communities. TABLE 3.9 contains the corresponding data for the achievement levels. The pattern mirrors the national results, with advantaged urban students having higher achievement than disadvantaged urban students, and students in the remaining types of communities generally performing somewhere in between.

TABLE 3.7 Average Reading Proficiency and Achievement Levels by Type of Community, Grades 4, 8, and 12, 1992 Reading Assessment

	Percentage of Students	Average Proficiency	Percentage of Students At or Above			Below Basic
			Advanced	Proficient	Basic	
Grade 4						
Advantaged Urban	10(1.9)	240(3.1)	12(2.5)	48(4.1)	82(3.3)	**18(3.3)**
Disadvantaged Urban	9(1.2)	188(2.7)	0(0.2)	5(1.3)	25(3.1)	**75(3.1)**
Extreme Rural	12(2.2)	220(3.0)	4(1.3)	24(1.8)	62(3.9)	**38(3.9)**
Other	69(2.9)	218(1.1)	4(0.6)	25(1.3)	60(1.3)	**40(1.3)**
Grade 8						
Advantaged Urban	10(1.9)	280(2.1)	5(1.4)	50(3.2)	87(1.9)	**13(1.9)**
Disadvantaged Urban	10(1.5)	237(1.9)	0(0.2)	9(1.2)	43(2.2)	**57(2.2)**
Extreme Rural	7(2.2)!	263(3.8)!	2(0.8)	29(4.5)	73(5.0)	**27(5.0)**
Other	72(2.9)	260(1.1)	2(0.4)	27(1.0)	69(1.3)	**31(1.3)**
Grade 12						
Advantaged Urban	12(2.2)	303(2.1)	6(1.1)	52(3.2)	86(1.9)	**14(1.9)**
Disadvantaged Urban	10(1.5)	275(2.6)	1(0.7)	20(2.7)	57(3.5)	**43(3.5)**
Extreme Rural	10(1.5)	286(2.0)	2(0.6)	30(3.6)	71(2.5)	**29(2.5)**
Other	68(3.0)	292(0.8)	3(0.4)	38(1.1)	77(0.9)	**23(0.9)**

The standard errors of the estimated percentages and proficiencies appear in parentheses. It can be said with 95 percent certainty for each population of interest, the value for the whole population is within plus or minus two standard errors of the estimate for the sample. In comparing two estimates, one must use the standard error of the difference (see Appendix for details). When the proportion of students is either 0 percent or 100 percent, the standard error is inestimable. However, percentages 99.5 percent and greater were rounded to 100 percent and percentages less than 0.5 percent were rounded to 0 percent. Percentages may not total 100 percent due to rounding error. !Interpret with caution -- the nature of the sample does not allow accurate determination of the variability of this estimated statistic.

SOURCE: National Assessment of Educational Progress (NAEP), 1992 Reading Assessment.

TABLE 3.8 | Average Reading Proficiency by Type of Community, Grade 4, 1992 Reading Assessment

PUBLIC SCHOOLS	Advantaged Urban		Disadvantaged Urban		Extreme Rural		Other	
	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency
NATION	7 (2.1)	239 (4.8)!	10 (1.3)	188 (2.8)	13 (2.4)	219 (3.0)	70 (3.2)	217 (1.2)
Northeast	14 (7.2)	248 (6.6)!	14 (4.1)	199 (4.7)!	2 (2.5)	*** (***)	69 (8.1)	220 (3.5)
Southeast	5 (3.3)	240 (3.6)!	14 (3.4)	187 (3.1)!	19 (6.9)	213 (5.2)!	62 (7.5)	214 (3.1)
Central	3 (2.3)	*** (***)	9 (2.2)	183 (4.6)!	15 (3.4)	228 (4.1)!	73 (4.8)	221 (2.0)
West	7 (3.7)	226 (4.2)!	5 (1.4)	170(10.8)!	14 (4.5)	216 (4.0)!	74 (5.4)	214 (2.1)
STATES								
Alabama	11 (3.1)	229 (3.1)!	13 (3.2)	189 (4.9)!	16 (4.1)	212 (3.0)!	61 (5.7)	209 (2.7)
Arizona	12 (3.7)	224 (3.2)!	11 (3.2)	205 (4.4)!	8 (3.1)	202 (8.9)!	70 (5.2)	209 (2.2)
Arkansas	1 (1.2)	*** (***)	6 (1.5)	198 (5.7)!	25 (4.0)	212 (2.9)	68 (4.2)	212 (1.8)
California	13 (2.8)	232 (3.1)!	22 (3.7)	179 (4.7)	0 (0.1)	*** (***)	65 (4.7)	206 (2.6)
Colorado	18 (3.2)	223 (1.8)	13 (2.7)	202 (2.2)!	12 (2.7)	219 (3.6)!	57 (5.0)	220 (1.8)
Connecticut	19 (4.4)	234 (3.0)!	16 (3.1)	191 (4.1)!	0 (0.0)	*** (***)	65 (5.1)	229 (1.3)
Delaware*	10 (0.1)	213 (3.5)	8 (0.2)	209 (3.6)	23 (0.2)	215 (1.0)	58 (0.2)	215 (1.0)
Dist. Columbia	20 (0.2)	216 (1.8)	60 (0.2)	181 (1.1)	0 (0.0)	*** (***)	19 (0.2)	191 (2.0)
Florida	16 (3.1)	226 (2.7)!	21 (3.6)	189 (3.6)	4 (1.6)	215 (4.6)!	59 (4.5)	212 (1.3)
Georgia	11 (3.5)	233 (4.2)!	12 (3.5)	190 (3.9)!	12 (3.8)	214 (3.4)!	65 (6.0)	214 (1.9)
Hawaii	12 (3.6)	223 (3.1)!	9 (1.8)	180 (6.4)	5 (2.1)	202 (3.9)!	74 (4.4)	206 (2.2)
Idaho	10 (2.7)	232 (2.7)!	1 (0.9)	*** (***)	33 (4.9)	218 (1.9)	56 (5.4)	221 (1.4)
Indiana	8 (2.7)	240 (3.2)!	10 (2.9)	205 (3.5)!	15 (3.3)	225 (3.1)!	67 (5.0)	223 (1.5)
Iowa	7 (3.0)	241 (3.2)!	6 (2.6)	217 (4.9)!	39 (3.5)	227 (1.7)	48 (4.6)	228 (1.5)
Kentucky	6 (2.7)	238 (4.1)!	11 (2.8)	201 (3.9)!	23 (3.9)	214 (2.5)	61 (4.4)	213 (1.6)
Louisiana	5 (2.2)	227 (6.1)!	18 (2.6)	187 (3.7)	10 (2.4)	208 (4.5)!	67 (3.8)	207 (1.4)
Maine*	2 (1.5)	*** (***)	2 (1.1)	*** (***)	23 (5.3)	227 (2.7)!	73 (5.3)	229 (1.4)
Maryland	20 (3.9)	224 (4.3)!	15 (3.8)	185 (7.6)!	5 (2.0)	211 (4.0)!	60 (5.1)	214 (2.0)
Massachusetts	17 (3.4)	237 (2.2)!	14 (2.6)	202 (2.6)	2 (1.0)	*** (***)	67 (4.3)	231 (1.3)
Michigan	10 (3.0)	240 (4.3)!	14 (3.7)	193 (4.5)!	11 (3.6)	225 (3.2)!	65 (5.2)	221 (1.6)
Minnesota	13 (3.8)	228 (3.0)!	3 (2.0)	*** (***)	27 (4.0)	219 (2.3)	58 (5.3)	222 (2.0)
Mississippi	1 (1.2)	*** (***)	5 (1.8)	189 (5.2)!	11 (2.3)	206 (4.7)!	82 (3.2)	199 (1.6)
Missouri	9 (3.0)	238 (4.8)!	10 (2.9)	191 (5.4)!	27 (4.0)	225 (1.8)	54 (5.3)	223 (1.6)
Nebraska*	8 (2.6)	236 (3.2)!	6 (1.6)	206 (2.4)!	27 (3.8)	226 (1.9)	59 (4.7)	220 (1.7)
New Hampshire*	8 (3.5)	235 (3.2)!	1 (1.2)	*** (***)	5 (2.2)	231 (3.1)!	85 (4.1)	230 (1.6)
New Jersey*	30 (4.3)	238 (2.4)	17 (3.2)	195 (3.1)!	0 (0.0)	*** (***)	53 (4.9)	227 (2.2)
New Mexico	6 (3.0)	234 (4.3)!	9 (3.0)	203 (5.3)!	3 (1.9)	203 (7.1)!	81 (4.6)	212 (1.9)
New York*	15 (3.4)	231 (2.7)!	23 (3.7)	193 (4.3)	3 (1.6)	222 (3.5)!	60 (4.6)	222 (3.0)
North Carolina	5 (1.7)	232 (4.9)!	4 (2.0)	204 (3.2)!	21 (4.2)	210 (2.5)!	70 (4.9)	212 (1.6)
North Dakota	10 (3.2)	234 (3.5)!	2 (1.6)	*** (***)	40 (3.8)	226 (2.3)	48 (4.6)	226 (1.5)
Ohio	10 (2.7)	236 (3.6)!	17 (2.6)	198 (3.1)	17 (3.9)	220 (3.0)!	56 (5.1)	222 (2.1)
Oklahoma	9 (3.1)	231 (3.1)!	11 (3.0)	213 (4.9)!	20 (3.7)	223 (2.6)	60 (4.4)	223 (1.5)
Pennsylvania	14 (4.5)	232 (4.0)!	17 (3.2)	195 (4.7)	15 (4.1)	229 (2.3)!	54 (5.6)	226 (1.5)
Rhode Island	12 (4.0)	236 (3.7)!	24 (4.8)	191 (4.6)!	0 (0.0)	*** (***)	63 (5.6)	224 (1.9)
South Carolina	7 (2.5)	230 (5.9)!	6 (1.5)	192 (3.5)!	13 (3.0)	201 (3.4)!	74 (4.0)	212 (1.6)
Tennessee	6 (2.8)	235 (4.3)!	13 (3.5)	192 (4.5)!	10 (2.7)	210 (3.2)!	71 (4.6)	215 (1.6)
Texas	10 (2.9)	245 (3.0)!	21 (5.1)	205 (4.2)!	11 (3.3)	215 (8.6)!	57 (5.7)	212 (2.0)
Utah	19 (3.7)	230 (2.7)	4 (1.8)	200(10.6)!	7 (2.7)	220 (3.2)!	70 (4.4)	221 (1.2)
Virginia	12 (3.1)	243 (3.9)!	14 (3.1)	206 (3.5)!	14 (3.0)	220 (3.4)!	59 (4.8)	220 (2.3)
West Virginia	1 (1.2)	*** (***)	8 (2.4)	212 (5.1)!	16 (3.7)	218 (2.4)!	75 (4.7)	217 (1.7)
Wisconsin	9 (2.7)	236 (3.3)!	6 (2.1)	208 (6.3)!	26 (5.2)	226 (2.4)	60 (5.4)	226 (1.4)
Wyoming	6 (2.0)	235 (4.4)!	4 (1.7)	209 (3.9)!	22 (3.3)	229 (1.6)	68 (4.2)	223 (1.6)
TERRITORY								
Guam	0 (0.0)	*** (***)	0 (0.0)	*** (***)	23 (0.2)	179 (2.2)	77 (0.2)	187 (1.8)

*Did not satisfy one or more of the guidelines for school sample participation rates (see Appendix B for details).

The standard errors of the estimated percentages and proficiencies appear in parentheses. It can be said with 95 percent certainty that for each population of interest, the value for the whole population is within plus or minus two standard errors of the estimate for the sample. In comparing two estimates, one must use the standard error of the difference (see Appendix for details). Percentages may not total 100 percent due to rounding error. When the proportion of students is either 0 percent or 100 percent, the standard error is inestimable. However, percentages 99.5 percent and greater were rounded to 100 percent and percentages 0.5 percent and less were rounded to 0 percent. ***Sample size insufficient to permit reliable estimate. There were fewer than 62 students. !Interpret with caution - the nature of the sample does not allow accurate determination of the variability of this estimated statistic.

SOURCE: National Assessment of Educational Progress (NAEP), 1992 Reading Assessment.

TABLE 3.9 | Achievement Levels by Type of Community, Grade 4, 1992 Reading Assessment

PUBLIC SCHOOLS	Percentage of Students At or Above Advanced				Percentage of Students At or Above Proficient			
	Advantaged Urban	Disadvantaged Urban	Extreme Rural	Other	Advantaged Urban	Disadvantaged Urban	Extreme Rural	Other
NATION	13 (4.0)!	0 (0.2)	4 (1.3)	4 (0.6)	47 (6.1)!	5 (1.3)	24 (1.8)	24 (1.4)
Northeast	19 (7.8)!	1 (0.4)!	*** (***)	5 (2.5)	58 (7.8)!	8 (3.0)!	*** (***)	28 (4.5)
Southeast	9 (3.5)!	0 (0.0)!	3 (1.0)!	3 (0.7)	47 (7.1)!	5 (1.5)!	17 (4.1)!	20 (3.0)
Central	*** (***)	0 (0.8)!	4 (2.0)!	4 (1.1)	*** (***)	4 (3.0)!	31 (4.6)!	25 (3.1)
West	4 (2.5)!	0 (0.0)!	5 (2.5)!	3 (0.6)	30 (5.9)!	1 (1.0)!	23 (2.7)!	22 (2.2)
STATES								
Alabama	5 (2.0)!	0 (0.4)!	3 (1.1)!	2 (0.6)	32 (4.4)!	5 (2.8)!	18 (2.4)!	18 (2.0)
Arizona	4 (1.7)!	1 (0.9)!	2 (0.9)!	2 (0.4)	27 (3.5)!	12 (3.5)!	14 (5.5)!	17 (1.8)
Arkansas	*** (***)	1 (0.8)!	2 (0.8)	3 (0.5)	*** (***)	12 (4.5)!	18 (2.6)	20 (1.6)
California	9 (1.9)!	0 (0.3)	*** (***)	2 (0.6)	39 (5.0)!	4 (1.5)	*** (***)	17 (1.8)
Colorado	4 (1.3)	0 (0.5)!	2 (0.7)!	3 (0.6)	26 (2.2)	10 (1.8)!	21 (3.5)!	23 (2.2)
Connecticut	7 (1.9)!	0 (0.7)!	*** (***)	5 (1.2)	41 (4.6)!	5 (2.1)!	*** (***)	34 (2.0)
Delaware*	3 (1.4)	2 (1.5)	2 (1.0)	4 (0.5)	24 (4.2)	17 (5.1)	21 (1.4)	22 (1.7)
Dist. Columbia	5 (1.0)	0 (0.2)	*** (***)	2 (1.2)	24 (2.0)	4 (0.7)	*** (***)	9 (2.2)
Florida	5 (1.4)!	0 (0.3)	3 (2.5)!	2 (0.4)	31 (3.1)!	8 (1.6)	21 (7.5)!	19 (1.5)
Georgia	8 (3.4)!	1 (1.1)!	3 (1.7)!	4 (0.7)	40 (6.6)!	7 (2.5)!	22 (4.1)!	23 (1.8)
Hawaii	5 (1.5)!	0 (0.3)	2 (1.8)!	2 (0.4)	27 (4.6)!	5 (3.1)	13 (3.2)!	15 (1.6)
Idaho	3 (1.4)!	*** (***)	2 (0.8)	3 (0.6)	35 (5.0)!	*** (***)	21 (2.6)	24 (1.9)
Indiana	10 (2.6)!	1 (0.6)!	3 (1.3)!	4 (0.8)	48 (5.0)!	11 (2.6)!	28 (4.0)!	26 (1.8)
Iowa	10 (2.1)!	3 (2.0)!	5 (1.4)	5 (0.7)	49 (6.3)!	20 (4.4)!	31 (2.2)	32 (2.5)
Kentucky	7 (3.8)!	1 (1.0)!	2 (0.8)	2 (0.5)	46 (5.8)!	12 (3.0)!	19 (2.7)	19 (1.8)
Louisiana	6 (2.0)!	0 (0.4)	1 (0.6)!	1 (0.4)	29 (6.4)!	4 (1.8)	15 (3.6)!	13 (1.1)
Maine*	*** (***)	*** (***)	4 (1.6)!	5 (0.9)	*** (***)	*** (***)	32 (4.4)!	32 (2.2)
Maryland	6 (1.5)!	1 (0.4)!	2 (1.4)!	3 (0.7)	34 (3.4)!	5 (2.2)!	15 (4.9)!	21 (1.9)
Massachusetts	6 (2.0)!	0 (0.4)	*** (***)	5 (0.8)	43 (4.4)!	9 (2.4)	*** (***)	35 (2.2)
Michigan	10 (4.4)!	0 (0.4)!	2 (1.5)!	3 (0.5)	46 (7.7)!	5 (2.3)!	27 (4.4)!	24 (2.2)
Minnesota	4 (2.2)!	*** (***)	3 (1.0)	4 (0.6)	34 (3.9)!	*** (***)	24 (2.1)	27 (2.1)
Mississippi	*** (***)	0 (0.4)!	2 (1.1)!	1 (0.4)	*** (***)	4 (3.4)!	18 (2.8)!	11 (0.9)
Missouri	10 (3.5)!	1 (1.0)!	4 (0.7)	3 (0.9)	47 (8.3)!	7 (2.8)!	28 (2.2)	26 (2.1)
Nebraska*	7 (3.7)!	2 (1.0)!	5 (1.3)	3 (0.8)	42 (5.9)!	14 (3.0)!	27 (3.2)	25 (1.9)
New Hampshire*	6 (4.1)!	*** (***)	7 (2.5)!	6 (0.9)	38 (4.4)!	*** (***)	35 (5.0)!	34 (2.1)
New Jersey*	8 (1.8)	0 (0.2)!	*** (***)	6 (1.4)	44 (4.2)	7 (2.0)!	*** (***)	32 (2.3)
New Mexico	9 (3.0)!	1 (0.7)!	1 (1.2)!	3 (0.8)	42 (8.1)!	13 (4.6)!	12 (6.3)!	19 (1.8)
New York*	7 (2.2)!	1 (0.8)	4 (2.3)!	4 (0.6)	36 (3.7)!	9 (2.3)	26 (6.3)!	27 (2.2)
North Carolina	11 (4.3)!	2 (1.2)!	3 (0.9)!	4 (0.6)	44 (4.8)!	13 (3.2)!	18 (2.1)!	21 (1.5)
North Dakota	5 (3.5)!	*** (***)	3 (0.9)	5 (1.1)	39 (6.4)!	*** (***)	29 (2.9)	30 (2.0)
Ohio	7 (2.6)!	0 (0.4)	2 (1.0)!	4 (0.8)	42 (4.4)!	8 (1.9)	23 (3.8)!	26 (2.4)
Oklahoma	5 (3.6)!	1 (0.7)!	2 (0.9)	3 (0.6)	35 (5.2)!	17 (4.3)!	26 (2.2)	26 (1.9)
Pennsylvania	8 (1.8)!	1 (1.0)	4 (1.4)!	5 (0.9)	37 (4.1)!	9 (3.7)	32 (3.1)!	30 (1.7)
Rhode Island	9 (2.2)!	0 (0.3)!	*** (***)	4 (0.9)	41 (6.0)!	7 (2.0)!	*** (***)	27 (2.4)
South Carolina	6 (1.8)!	0 (0.3)!	2 (1.2)!	3 (0.7)	36 (6.5)!	4 (2.2)!	12 (2.4)!	20 (1.5)
Tennessee	6 (2.8)!	1 (0.8)!	2 (1.0)!	2 (0.6)	42 (5.7)!	6 (1.8)!	15 (3.1)!	21 (1.6)
Texas	13 (3.3)!	1 (0.6)!	3 (1.9)!	2 (0.5)	54 (6.2)!	12 (3.3)!	23 (7.3)!	18 (1.9)
Utah	5 (1.5)	1 (1.2)!	4 (1.9)!	3 (0.6)	35 (3.7)	11 (4.2)!	24 (4.5)!	25 (1.4)
Virginia	13 (3.9)!	2 (1.2)!	4 (1.7)!	3 (0.8)	50 (7.3)!	13 (3.1)!	23 (3.8)!	25 (2.7)
West Virginia	*** (***)	3 (2.6)!	4 (1.1)!	3 (0.6)	*** (***)	20 (5.2)!	23 (2.8)!	22 (1.7)
Wisconsin	9 (2.9)!	3 (2.3)!	3 (1.2)	4 (0.8)	40 (5.5)!	16 (4.2)!	30 (2.8)	30 (1.6)
Wyoming	8 (2.6)!	0 (0.6)!	5 (1.2)	3 (0.5)	38 (5.5)!	13 (4.0)!	35 (3.1)	26 (1.9)
TERRITORY								
Guam	*** (***)	*** (***)	0 (0.4)	1 (0.3)	*** (***)	*** (***)	4 (1.1)	8 (1.1)

*Did not satisfy one or more of the guidelines for school sample participation rates (see Appendix B for details).

The standard errors of the estimated percentages appear in parentheses. It can be said with 95 percent certainty that for each population of interest, the value for the whole population is within plus or minus two standard errors of the estimate for the sample. In comparing two estimates, one must use the standard error of the difference (see Appendix for details). Percentages may not total 100 percent due to rounding error. When the proportion of students is either 0 percent or 100 percent, the standard error is inestimable. However, percentages 99.5 percent and greater were rounded to 100 percent and percentages 0.5 percent and less were rounded to 0 percent. ***Sample size insufficient to permit reliable estimate. There were fewer than 62 students. !Interpret with caution - the nature of the sample does not allow accurate determination of the variability of this estimated statistic.

SOURCE: National Assessment of Educational Progress (NAEP), 1992 Reading Assessment.

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TABLE 3.9 | Achievement Levels by Type of Community, Grade 4, 1992 Reading Assessment (continued)

PUBLIC SCHOOLS	Percentage of Students At or Above Basic				Percentage of Students Below Basic			
	Advantaged Urban	Disadvantaged Urban	Extreme Rural	Other	Advantaged Urban	Disadvantaged Urban	Extreme Rural	Other
NATION	80 (5.1)!	25 (3.1)	62 (4.0)	58 (1.4)	20 (5.1)!	75 (3.1)	38 (4.0)	42 (1.4)
Northeast	88 (5.9)!	34 (7.1)!	*** (***)	62 (3.6)	12 (5.9)!	66 (7.1)!	*** (***)	38 (3.6)
Southeast	84 (5.7)!	24 (4.6)!	56 (6.2)!	54 (4.0)	16 (5.7)!	76 (4.6)!	44 (6.2)!	46 (4.0)
Central	*** (***)	21 (6.1)!	76 (4.7)!	63 (2.3)	*** (***)	79 (6.1)!	24 (4.7)!	37 (2.3)
West	65 (4.3)!	13 (4.9)!	54 (5.4)!	54 (2.3)	35 (4.3)!	87 (4.9)!	46 (5.4)!	46 (2.3)
STATES								
Alabama	72 (4.6)!	27 (5.9)!	51 (4.6)!	49 (3.0)	28 (4.6)!	73 (5.9)!	49 (4.6)!	51 (3.0)
Arizona	66 (5.4)!	44 (5.3)!	43(11.1)!	50 (2.8)	34 (5.4)!	56 (5.3)!	57(11.1)!	50 (2.8)
Arkansas	*** (***)	35 (7.4)!	54 (3.4)	53 (2.3)	*** (***)	65 (7.4)!	46 (3.4)	47 (2.3)
California	75 (3.6)!	21 (4.8)	*** (***)	48 (2.8)	25 (3.6)!	79 (4.8)	*** (***)	52 (2.8)
Colorado	68 (2.7)	40 (3.5)!	61 (5.3)!	63 (2.5)	32 (2.7)	60 (3.5)!	39 (5.3)!	37 (2.5)
Connecticut	79 (4.3)!	27 (5.0)!	*** (***)	73 (1.9)	21 (4.3)!	73 (5.0)!	*** (***)	27 (1.9)
Delaware	54 (2.8)	48 (3.6)	55 (2.5)	55 (1.5)	46 (2.8)	52 (3.6)	45 (2.5)	45 (1.5)
Dist. Columbia	56 (2.6)	20 (1.8)	*** (***)	28 (3.0)	44 (2.6)	80 (1.8)	*** (***)	72 (3.0)
Florida	68 (3.1)!	28 (3.5)	53 (9.6)!	52 (2.0)	32 (3.1)!	72 (3.5)	47 (9.6)!	48 (2.0)
Georgia	77 (4.5)!	26 (4.9)!	55 (4.7)!	54 (2.3)	23 (4.5)!	74 (4.9)!	45 (4.7)!	46 (2.3)
Hawaii	64 (4.1)!	21 (4.8)	40 (6.1)!	46 (2.6)	36 (4.1)!	79 (4.8)	60 (6.1)!	54 (2.6)
Idaho	79 (3.2)!	*** (***)	61 (2.5)	63 (1.9)	21 (3.2)!	*** (***)	39 (2.5)	37 (1.9)
Indiana	83 (3.7)!	41 (5.3)!	69 (3.8)!	65 (2.0)	17 (3.7)!	59 (5.3)!	31 (3.8)!	35 (2.0)
Iowa	84 (4.4)!	54 (5.7)!	70 (2.2)	72 (2.1)	16 (4.4)!	46 (5.7)!	30 (2.2)	28 (2.1)
Kentucky	84 (3.8)!	39 (5.0)!	57 (4.1)	54 (2.2)	16 (3.8)!	61 (5.0)!	43 (4.1)	46 (2.2)
Louisiana	70 (8.8)!	24 (4.4)	46 (6.9)!	45 (2.0)	30 (8.8)!	76 (4.4)	54 (6.9)!	55 (2.0)
Maine	*** (***)	*** (***)	70 (3.6)!	73 (1.8)	*** (***)	*** (***)	30 (3.6)!	27 (1.8)
Maryland	69 (4.9)!	26 (7.0)!	50 (4.7)!	54 (2.4)	31 (4.9)!	74 (7.0)!	50 (4.7)!	46 (2.4)
Massachusetts	84 (2.4)!	39 (4.2)	*** (***)	75 (1.9)	16 (2.4)!	61 (4.2)	*** (***)	25 (1.9)
Michigan	85 (5.5)!	27 (4.9)!	69 (5.7)!	63 (2.4)	15 (5.5)!	73 (4.9)!	31 (5.7)!	37 (2.4)
Minnesota	73 (3.9)!	*** (***)	60 (3.3)	64 (2.9)	27 (3.9)!	*** (***)	40 (3.3)	36 (2.9)
Mississippi	*** (***)	24 (6.8)!	46 (5.1)!	37 (1.9)	*** (***)	76 (6.8)!	54 (5.1)!	63 (1.9)
Missouri	80 (4.4)!	28 (4.9)!	67 (2.9)	65 (2.3)	20 (4.4)!	72 (4.9)!	33 (2.9)	35 (2.3)
Nebraska	83 (3.2)!	43 (4.2)!	69 (3.1)	62 (2.2)	17 (3.2)!	57 (4.2)!	31 (3.1)	38 (2.2)
New Hampshire	83 (3.4)!	*** (***)	74 (5.3)!	73 (2.1)	17 (3.4)!	*** (***)	26 (5.3)!	27 (2.1)
New Jersey	84 (2.6)	29 (4.6)!	*** (***)	70 (2.6)	16 (2.6)	71 (4.6)!	*** (***)	30 (2.6)
New Mexico	75 (6.2)!	41 (5.9)!	39 (7.1)!	51 (2.3)	25 (6.2)!	59 (5.9)!	61 (7.1)!	49 (2.3)
New York	75 (3.2)!	34 (3.6)	64 (4.4)!	64 (3.1)	25 (3.2)!	66 (3.6)	36 (4.4)!	36 (3.1)
North Carolina	72 (5.0)!	43 (5.1)!	51 (2.9)!	52 (2.0)	28 (5.0)!	57 (5.1)!	49 (2.9)!	48 (2.0)
North Dakota	81 (3.7)!	*** (***)	70 (3.9)	70 (1.8)	19 (3.7)!	*** (***)	30 (3.9)	30 (1.8)
Ohio	81 (4.6)!	35 (3.6)	63 (4.2)!	63 (2.5)	19 (4.6)!	65 (3.6)	37 (4.2)!	37 (2.5)
Oklahoma	75 (4.3)!	51 (8.0)!	68 (3.8)	66 (2.0)	25 (4.3)!	49 (8.0)!	32 (3.8)	34 (2.0)
Pennsylvania	77 (5.6)!	32 (5.3)	72 (3.4)!	68 (2.1)	23 (5.6)!	68 (5.3)	28 (3.4)!	32 (2.1)
Rhode Island	78 (3.4)!	28 (4.5)!	*** (***)	67 (2.5)	22 (3.4)!	72 (4.5)!	*** (***)	33 (2.5)
South Carolina	71 (8.4)!	26 (5.3)!	39 (4.6)!	51 (2.2)	29 (8.4)!	74 (5.3)!	61 (4.6)!	49 (2.2)
Tennessee	77 (4.7)!	28 (5.3)!	50 (3.6)!	56 (2.3)	23 (4.7)!	72 (5.3)!	50 (3.6)!	44 (2.3)
Texas	89 (2.9)!	41 (5.9)!	59 (8.2)!	51 (2.7)	11 (2.9)!	59 (5.9)!	41 (8.2)!	49 (2.7)
Utah	73 (3.2)	40(13.2)!	61 (4.7)!	64 (1.7)	27 (3.2)	60(13.2)!	39 (4.7)!	36 (1.7)
Virginia	87 (2.8)!	43 (4.7)!	59 (5.0)!	62 (3.0)	13 (2.8)!	57 (4.7)!	41 (5.0)!	38 (3.0)
West Virginia	*** (***)	52 (6.4)!	58 (3.5)!	58 (2.0)	*** (***)	48 (6.4)!	42 (3.5)!	42 (2.0)
Wisconsin	80 (3.0)!	46 (7.7)!	69 (3.3)	68 (2.0)	20 (3.0)!	54 (7.7)!	31 (3.3)	32 (2.0)
Wyoming	81 (3.6)!	50 (8.7)!	73 (2.3)	66 (2.2)	19 (3.6)!	50 (8.7)!	27 (2.3)	34 (2.2)
TERRITORY								
Guam	*** (***)	*** (***)	19 (2.4)	29 (1.7)	*** (***)	*** (***)	81 (2.4)	71 (1.7)

Performance by Parents' Highest Level of Education

The national results for grades 4, 8, and 12 by the highest education level of students' parents are presented in TABLE 3.10. For both average proficiency and the percentages reaching each of the three achievement levels, students whose parents are more educated generally have higher average reading proficiency. The pattern is less pronounced at grade 4, where 36 percent of the students reported that they did not know their parents' level of education.

- At grade 4, students whose parents had graduated from college or had some education after high school had higher average proficiency than students whose parents did not graduate from high school and students who did not know their parents' educational level.

- At both grades 8 and 12, there was a positive relationship between average proficiency and the education level of students' parents. Students whose parents had graduated from college performed better than those students whose parents had some education after high school. The latter group of students performed significantly better than those whose parents had graduated from high school, and this group in turn performed better than those students whose parents did not finish high school.

- At grade 12, this pattern also held for each of the achievement levels. At grades 4 and 8, the results were less consistent across the achievement levels.

TABLES 3.11 and 3.12 contain the state-by-state results at grade 4 for reading achievement by parents' level of education. Because a substantial proportion of fourth graders did not know their parents' education level, the results tended to reflect the national results at grade 4 rather than the strong relationship seen at grade 8 and particularly at grade 12. There were variations from jurisdiction to jurisdiction, but generally students whose parents had graduated from college and those whose parents had some education after high school performed similarly. They outperformed students whose parents had graduated from high school and those who did not know their parents' education level -- two groups of students who also performed similarly. Students whose parents did not graduate from high school had the lowest average proficiency.

TABLE 3.10 **Average Reading Proficiency and Achievement Levels by Parents' Highest Level of Education, Grades 4, 8, and 12, 1992 Reading Assessment**

	Percentage of Students	Average Proficiency	Percentage of Students At or Above			Below Basic
			Advanced	Proficient	Basic	
Grade 4						
Graduated College	39(1.1)	227(1.4)	8(0.8)	35(1.7)	68(1.8)	**32(1.8)**
Some Education after High School	9(0.5)	224(2.2)	6(1.9)	29(3.0)	66(3.0)	**34(3.0)**
Graduated High School	12(0.6)	213(1.7)	2(1.0)	19(2.2)	55(2.5)	**45(2.5)**
Did Not Finish High School	4(0.4)	199(2.7)	1(1.3)	10(2.4)	35(3.8)	**65(3.8)**
I Don't Know	36(1.0)	211(1.2)	2(0.5)	18(1.2)	52(1.7)	**48(1.7)**
Grade 8						
Graduated College	41(1.2)	271(1.0)	4(0.5)	38(1.4)	79(1.0)	**21(1.0)**
Some Education after High School	19(0.5)	266(1.1)	2(0.7)	31(1.6)	76(1.5)	**24(1.5)**
Graduated High School	24(0.8)	251(1.4)	1(0.2)	17(1.6)	60(1.8)	**40(1.8)**
Did Not Finish High School	8(0.5)	243(1.5)	0(0.1)	12(1.8)	50(2.3)	**50(2.3)**
I Don't Know	8(0.4)	238(2.0)	0(0.3)	11(1.9)	44(2.5)	**56(2.5)**
Grade 12						
Graduated College	41(0.9)	300(0.8)	5(0.6)	48(1.1)	84(0.8)	**16(0.8)**
Some Education after High School	27(0.6)	293(0.8)	3(0.5)	38(1.2)	78(1.0)	**22(1.0)**
Graduated High School	22(0.5)	281(0.8)	1(0.3)	25(1.2)	66(1.6)	**34(1.6)**
Did Not Finish High School	8(0.4)	274(1.5)	0(0.3)	18(2.1)	56(2.6)	**44(2.6)**
I Don't Know	2(0.2)	257(2.8)	0(0.7)	8(2.2)	38(6.1)	**62(6.1)**

The standard errors of the estimated percentages and proficiencies appear in parentheses. It can be said with 95 percent certainty for each population of interest, the value for the whole population is within plus or minus two standard errors of the estimate for the sample. In comparing two estimates, one must use the standard error of the difference (see Appendix for details). When the proportion of students is either 0 percent or 100 percent, the standard error is inestimable. However, percentages 99.5 percent and greater were rounded to 100 percent and percentages less than 0.5 percent were rounded to 0 percent. Percentages may not total 100 percent due to rounding error.

SOURCE: National Assessment of Educational Progress (NAEP), 1992 Reading Assessment.

TABLE 3.11 | **Average Reading Proficiency by Parents' Highest Level of Education, Grade 4, 1992 Reading Assessment**

PUBLIC SCHOOLS	Graduated College		Some Education After High School		Graduated High School		Did Not Finish High School		I Don't Know	
	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency
NATION	37 (1.1)	224 (1.6)	9 (0.6)	223 (2.4)	13 (0.6)	212 (1.8)	4 (0.4)	198 (2.8)	37 (1.1)	210 (1.3)
Northeast	40 (3.3)	233 (5.3)	7 (0.8)	223 (9.4)	12 (1.8)	213 (3.5)	3 (0.5)	*** (***)	37 (2.8)	213 (3.7)
Southeast	36 (2.2)	220 (2.9)	8 (0.9)	217 (4.8)	16 (1.2)	208 (4.4)	5 (0.7)	198 (3.7)	35 (2.0)	206 (2.6)
Central	38 (2.1)	225 (2.7)	13 (1.5)	225 (4.1)	13 (1.0)	215 (3.8)	3 (0.7)	*** (***)	34 (2.1)	214 (2.2)
West	35 (1.9)	221 (2.8)	7 (1.0)	224 (3.7)	10 (1.1)	211 (4.2)	6 (1.0)	196 (5.6)	41 (1.8)	208 (1.6)
STATES										
Alabama	36 (1.4)	216 (2.2)	8 (0.7)	218 (3.0)	20 (1.0)	208 (2.4)	9 (0.7)	198 (2.7)	27 (1.2)	200 (2.2)
Arizona	34 (1.4)	219 (1.5)	8 (0.6)	217 (2.8)	9 (0.6)	205 (2.5)	5 (0.4)	196 (3.6)	43 (1.5)	205 (1.7)
Arkansas	32 (1.3)	218 (2.0)	10 (0.7)	224 (2.1)	20 (0.9)	212 (1.9)	9 (0.6)	203 (2.7)	30 (1.0)	204 (1.6)
California	37 (1.5)	217 (2.6)	7 (0.6)	207 (4.2)	8 (0.7)	199 (4.3)	5 (0.5)	178 (4.3)	43 (1.2)	194 (2.5)
Colorado	40 (1.1)	226 (1.3)	11 (0.6)	225 (2.3)	12 (0.7)	211 (2.3)	4 (0.3)	203 (3.3)	34 (1.2)	210 (1.6)
Connecticut	43 (1.2)	234 (1.5)	9 (0.7)	231 (2.9)	11 (0.6)	214 (2.7)	3 (0.3)	202 (3.6)	34 (1.3)	211 (1.7)
Delaware*	38 (0.7)	221 (1.5)	7 (0.6)	222 (2.3)	14 (0.7)	206 (2.2)	4 (0.4)	198 (4.6)	37 (0.8)	210 (1.7)
Dist. Columbia	42 (0.9)	195 (1.5)	7 (0.6)	197 (3.2)	15 (0.7)	188 (2.1)	5 (0.4)	179 (3.5)	31 (0.8)	180 (1.7)
Florida	36 (1.3)	214 (1.5)	9 (0.6)	217 (2.8)	13 (0.7)	207 (2.7)	5 (0.5)	200 (3.5)	36 (1.4)	205 (1.6)
Georgia	38 (1.3)	222 (2.3)	8 (0.5)	220 (3.2)	17 (0.8)	207 (2.2)	6 (0.5)	201 (3.3)	31 (1.2)	207 (1.4)
Hawaii	38 (1.3)	210 (2.0)	7 (0.5)	209 (3.8)	13 (0.8)	196 (2.6)	3 (0.3)	199 (4.5)	38 (1.2)	201 (2.0)
Idaho	38 (1.1)	229 (1.2)	9 (0.7)	229 (2.0)	11 (0.6)	215 (2.4)	4 (0.5)	206 (4.4)	38 (1.0)	213 (1.2)
Indiana	35 (1.4)	228 (1.7)	10 (0.7)	231 (2.5)	16 (1.0)	219 (2.0)	6 (0.6)	212 (3.8)	33 (1.4)	217 (1.6)
Iowa	41 (1.5)	235 (1.3)	10 (0.5)	232 (1.8)	15 (0.8)	223 (1.7)	3 (0.4)	207 (3.5)	32 (1.1)	218 (1.4)
Kentucky	30 (1.7)	221 (2.1)	10 (0.7)	223 (2.5)	20 (0.9)	215 (1.9)	10 (0.7)	201 (2.2)	31 (1.3)	207 (1.5)
Louisiana	33 (1.3)	207 (2.1)	9 (0.6)	216 (2.4)	18 (0.9)	202 (1.9)	8 (0.6)	197 (2.3)	33 (1.4)	202 (1.3)
Maine*	41 (1.7)	236 (1.4)	9 (0.8)	236 (2.3)	17 (1.2)	225 (1.8)	3 (0.4)	214 (4.0)	30 (1.4)	219 (1.7)
Maryland	44 (1.4)	219 (1.9)	8 (0.6)	219 (2.3)	12 (0.7)	208 (2.8)	4 (0.4)	197 (5.0)	32 (1.2)	205 (2.1)
Massachusetts	46 (1.5)	236 (1.1)	8 (0.6)	234 (2.2)	11 (0.6)	223 (2.5)	3 (0.4)	206 (3.6)	33 (1.4)	217 (1.9)
Michigan	37 (1.8)	224 (2.2)	10 (0.7)	225 (2.4)	14 (0.8)	213 (2.3)	5 (0.5)	205 (3.7)	34 (1.4)	211 (1.7)
Minnesota	40 (1.5)	228 (1.7)	9 (0.7)	232 (2.8)	13 (0.9)	219 (2.3)	2 (0.3)	*** (***)	36 (1.3)	215 (1.6)
Mississippi	34 (1.5)	205 (1.7)	7 (0.5)	210 (2.8)	16 (1.0)	198 (2.4)	8 (0.7)	189 (2.7)	35 (1.4)	196 (2.0)
Missouri	36 (1.3)	229 (1.9)	10 (0.7)	228 (2.5)	17 (0.9)	216 (2.0)	6 (0.5)	212 (2.7)	32 (1.2)	214 (1.4)
Nebraska*	44 (1.2)	229 (1.6)	10 (0.8)	232 (3.2)	12 (0.7)	218 (2.3)	3 (0.4)	*** (***)	31 (1.3)	212 (1.5)
New Hampshire*	43 (1.7)	236 (1.6)	9 (0.7)	236 (2.5)	14 (1.0)	222 (2.4)	4 (0.4)	213 (3.6)	30 (1.2)	223 (1.8)
New Jersey*	45 (1.8)	234 (1.8)	8 (0.7)	231 (2.8)	10 (0.7)	217 (2.6)	4 (0.4)	206 (4.3)	33 (1.6)	214 (1.8)
New Mexico	31 (1.8)	223 (2.0)	10 (0.9)	220 (2.8)	16 (1.1)	211 (2.1)	6 (0.7)	194 (3.3)	37 (1.7)	204 (2.2)
New York*	39 (1.5)	228 (1.4)	8 (0.8)	222 (2.4)	13 (0.7)	210 (2.3)	4 (0.5)	198 (3.8)	36 (1.5)	208 (1.8)
North Carolina	39 (1.3)	221 (1.7)	8 (0.6)	220 (2.6)	16 (0.8)	207 (2.2)	7 (0.5)	197 (2.6)	29 (0.9)	206 (1.6)
North Dakota	47 (1.5)	234 (1.2)	9 (0.7)	231 (2.7)	11 (0.8)	225 (2.2)	3 (0.4)	*** (***)	30 (1.3)	217 (1.4)
Ohio	36 (1.1)	224 (1.6)	10 (0.7)	225 (2.8)	15 (1.0)	216 (2.1)	5 (0.6)	208 (4.1)	33 (1.0)	213 (1.6)
Oklahoma	35 (1.6)	227 (1.6)	12 (0.8)	230 (2.3)	14 (0.9)	218 (2.1)	6 (0.5)	211 (3.1)	33 (1.3)	217 (1.1)
Pennsylvania	38 (1.7)	230 (1.7)	8 (0.6)	233 (2.3)	15 (0.8)	217 (1.9)	4 (0.4)	210 (2.8)	34 (1.1)	214 (1.6)
Rhode Island	36 (1.8)	227 (2.4)	8 (0.7)	229 (2.6)	11 (0.8)	210 (2.6)	5 (0.5)	204 (4.9)	40 (1.6)	210 (2.2)
South Carolina	37 (1.5)	219 (1.6)	8 (0.6)	223 (3.0)	19 (1.0)	201 (2.0)	5 (0.6)	198 (2.8)	31 (1.2)	206 (1.7)
Tennessee	34 (1.8)	221 (2.3)	9 (0.5)	223 (3.9)	19 (1.1)	211 (2.5)	8 (0.6)	203 (2.6)	30 (1.3)	205 (1.4)
Texas	34 (1.6)	223 (2.3)	9 (0.8)	220 (2.8)	14 (0.9)	209 (2.2)	7 (0.8)	201 (2.9)	35 (1.4)	208 (1.6)
Utah	40 (1.4)	228 (1.4)	9 (0.6)	230 (2.6)	10 (0.6)	216 (2.0)	3 (0.4)	209 (4.6)	39 (1.3)	215 (1.6)
Virginia	42 (1.8)	230 (2.0)	9 (0.7)	227 (2.8)	14 (0.7)	216 (1.8)	6 (0.6)	208 (2.8)	29 (1.1)	214 (1.6)
West Virginia	33 (1.4)	226 (1.6)	10 (0.6)	225 (2.1)	20 (0.8)	213 (1.9)	8 (0.6)	204 (2.7)	29 (1.0)	208 (1.9)
Wisconsin	35 (1.2)	233 (1.6)	11 (0.6)	234 (2.0)	16 (1.0)	221 (1.5)	3 (0.3)	213 (3.9)	36 (1.2)	218 (1.5)
Wyoming	39 (1.2)	232 (1.3)	11 (0.7)	232 (2.3)	13 (0.7)	219 (2.4)	4 (0.3)	211 (4.3)	33 (1.1)	217 (1.6)
TERRITORY										
Guam	32 (1.2)	183 (2.2)	6 (0.5)	193 (5.0)	14 (0.8)	182 (3.3)	5 (0.4)	176 (5.6)	44 (1.2)	182 (2.0)

*Did not satisfy one or more of the guidelines for school sample participation rates (see Appendix B for details).

The standard errors of the estimated percentages and proficiencies appear in parentheses. It can be said with 95 percent certainty that for each population of interest, the value for the whole population is within plus or minus two standard errors of the estimate for the sample. In comparing two estimates, one must use the standard error of the difference (see Appendix for details). Percentages may not total 100 percent due to rounding error. ***Sample size insufficient to permit reliable estimate. There were fewer than 62 students.

SOURCE: National Assessment of Educational Progress (NAEP), 1992 Reading Assessment.

TABLE 3.12 | Achievement Levels by Parents' Highest Level of Education, Grade 4, 1992 Reading Assessment

PUBLIC SCHOOLS	Percentage of Students At or Above Advanced					Percentage of Students At or Above Proficient				
	Graduated College	Some Education After High School	Graduated High School	Did Not Finish High School	I Don't Know	Graduated College	Some Education After High School	Graduated High School	Did Not Finish High School	I Don't Know
NATION	7 (0.9)	6 (2.2)	2 (1.0)	1 (1.4)	2 (0.5)	33 (1.9)	28 (3.2)	18 (2.3)	10 (2.6)	17 (1.3)
Northeast	11 (3.8)	6 (8.6)	2 (2.0)	*** (***)	2 (1.5)	44 (6.1)	30 (8.9)	17 (4.6)	*** (***)	20 (4.2)
Southeast	6 (1.0)	5 (3.3)	2 (1.2)	0 (0.3)	1 (0.5)	28 (3.6)	24 (4.8)	16 (4.4)	8 (3.3)	13 (2.5)
Central	5 (1.5)	5 (3.6)	2 (1.7)	*** (***)	3 (0.9)	31 (3.2)	28 (6.6)	18 (3.7)	*** (***)	21 (2.3)
West	6 (1.4)	6 (3.2)	2 (1.9)	1 (1.8)	2 (1.0)	29 (3.5)	29 (4.9)	20 (6.9)	12 (4.5)	16 (2.0)
STATES										
Alabama	4 (0.7)	3 (2.0)	2 (0.6)	1 (0.7)	1 (0.4)	24 (2.2)	25 (3.3)	14 (2.1)	8 (2.0)	11 (1.6)
Arizona	4 (1.0)	2 (1.2)	1 (1.0)	1 (1.5)	1 (0.3)	26 (1.7)	22 (3.9)	13 (2.8)	9 (3.2)	13 (1.2)
Arkansas	4 (1.0)	4 (1.7)	1 (0.6)	1 (1.1)	2 (0.7)	26 (2.7)	30 (3.9)	19 (2.1)	12 (2.6)	12 (1.3)
California	5 (1.2)	2 (1.6)	2 (1.5)	0 (0.5)	1 (0.4)	27 (2.6)	21 (4.8)	13 (4.9)	3 (2.7)	10 (1.4)
Colorado	5 (0.7)	3 (1.0)	1 (0.6)	0 (1.1)	1 (0.5)	29 (1.8)	28 (4.0)	15 (2.8)	12 (3.5)	14 (1.7)
Connecticut	8 (2.0)	6 (1.9)	1 (0.8)	0 (0.0)	1 (0.4)	43 (2.2)	37 (4.9)	16 (3.3)	7 (4.0)	17 (1.7)
Delaware*	5 (0.9)	5 (2.0)	1 (0.9)	0 (0.4)	2 (0.8)	30 (2.0)	24 (3.9)	13 (3.0)	7 (4.3)	17 (1.8)
Dist. Columbia	3 (0.6)	2 (1.2)	0 (0.2)	0 (0.4)	1 (0.3)	12 (0.9)	12 (3.7)	4 (1.2)	4 (2.8)	5 (0.9)
Florida	3 (0.6)	3 (1.9)	2 (0.9)	1 (1.8)	1 (0.4)	23 (1.9)	23 (3.3)	17 (2.7)	11 (4.0)	14 (1.3)
Georgia	6 (1.1)	6 (1.8)	2 (1.1)	1 (0.9)	2 (0.7)	30 (2.4)	31 (3.1)	15 (2.3)	11 (3.1)	16 (1.8)
Hawaii	2 (0.6)	2 (1.3)	1 (0.8)	0 (0.7)	1 (0.6)	18 (1.5)	19 (3.9)	10 (2.5)	12 (5.0)	12 (2.1)
Idaho	5 (1.0)	4 (1.3)	1 (0.8)	2 (3.3)	1 (0.5)	34 (2.2)	32 (3.2)	17 (4.2)	13 (4.6)	16 (1.5)
Indiana	6 (1.1)	5 (1.8)	2 (1.0)	1 (0.8)	2 (0.8)	34 (2.2)	35 (4.2)	23 (2.5)	15 (3.6)	20 (2.2)
Iowa	7 (0.8)	5 (1.7)	4 (1.5)	2 (1.9)	3 (1.1)	42 (2.2)	37 (4.2)	25 (2.5)	10 (3.3)	21 (1.8)
Kentucky	4 (1.4)	3 (2.2)	2 (0.6)	0 (0.5)	1 (0.7)	26 (3.0)	28 (3.2)	19 (2.2)	9 (2.3)	14 (1.5)
Louisiana	2 (0.7)	2 (1.5)	1 (0.3)	0 (0.9)	1 (0.5)	15 (1.8)	23 (2.5)	10 (1.7)	7 (1.7)	10 (1.2)
Maine*	8 (1.3)	5 (2.5)	2 (1.0)	0 (0.7)	2 (0.7)	42 (2.5)	42 (5.1)	25 (3.5)	12 (5.4)	21 (2.0)
Maryland	5 (0.9)	3 (1.8)	2 (0.8)	1 (0.9)	2 (0.5)	28 (1.5)	25 (3.4)	16 (3.3)	9 (3.1)	13 (1.4)
Massachusetts	7 (1.0)	5 (2.3)	2 (1.4)	0 (0.7)	2 (0.5)	43 (1.9)	36 (3.5)	23 (4.4)	13 (4.2)	19 (2.5)
Michigan	4 (1.1)	3 (1.6)	2 (0.7)	0 (1.5)	1 (0.5)	31 (3.1)	29 (4.1)	17 (2.3)	11 (4.4)	16 (1.9)
Minnesota	5 (0.9)	6 (2.0)	2 (1.2)	*** (***)	2 (0.5)	34 (2.3)	39 (5.4)	24 (2.9)	*** (***)	20 (1.8)
Mississippi	2 (0.6)	2 (1.6)	1 (0.4)	1 (0.6)	1 (0.4)	15 (1.5)	20 (3.5)	10 (1.9)	6 (1.7)	9 (1.0)
Missouri	7 (1.1)	5 (1.6)	1 (0.7)	1 (1.4)	2 (0.6)	36 (2.2)	34 (3.5)	20 (2.4)	15 (3.8)	18 (1.9)
Nebraska*	5 (1.3)	8 (3.2)	3 (1.1)	*** (***)	2 (0.9)	35 (2.3)	39 (4.9)	18 (3.4)	*** (***)	15 (1.8)
New Hampshire*	8 (1.2)	7 (2.6)	3 (1.5)	1 (1.6)	3 (1.0)	41 (2.3)	42 (4.7)	26 (3.2)	13 (5.0)	27 (2.3)
New Jersey*	9 (1.5)	6 (2.2)	3 (1.3)	1 (1.4)	2 (0.8)	42 (2.4)	38 (4.4)	21 (4.0)	12 (4.2)	19 (1.8)
New Mexico	6 (1.2)	4 (1.8)	1 (0.9)	0 (0.0)	1 (0.9)	29 (2.3)	25 (3.6)	16 (2.8)	6 (2.4)	14 (1.9)
New York*	6 (1.2)	3 (1.2)	1 (1.1)	0 (0.5)	2 (0.6)	34 (2.2)	28 (4.8)	18 (2.9)	10 (4.0)	16 (1.6)
North Carolina	6 (1.2)	4 (1.4)	2 (0.7)	1 (1.0)	2 (0.6)	30 (2.2)	26 (4.2)	16 (2.0)	7 (2.1)	16 (1.9)
North Dakota	6 (1.0)	5 (2.5)	3 (1.4)	*** (***)	2 (0.5)	39 (1.9)	36 (3.9)	25 (3.6)	*** (***)	19 (1.9)
Ohio	5 (0.9)	5 (2.0)	2 (0.9)	1 (1.7)	2 (0.6)	31 (2.2)	29 (3.5)	21 (2.7)	13 (3.2)	17 (1.7)
Oklahoma	4 (0.7)	5 (2.3)	1 (1.1)	1 (1.2)	2 (0.6)	32 (2.3)	37 (3.6)	18 (2.4)	15 (4.3)	18 (1.7)
Pennsylvania	7 (1.3)	7 (2.6)	2 (1.5)	1 (0.9)	2 (0.7)	38 (2.0)	40 (4.2)	21 (2.9)	14 (3.3)	18 (1.7)
Rhode Island	6 (1.0)	4 (1.9)	1 (0.9)	0 (0.9)	2 (0.6)	33 (3.1)	34 (4.1)	16 (3.8)	11 (3.9)	18 (1.9)
South Carolina	4 (1.0)	4 (2.0)	1 (0.5)	1 (0.7)	1 (0.5)	27 (1.7)	26 (4.8)	12 (1.8)	7 (2.9)	14 (1.5)
Tennessee	5 (1.1)	5 (1.8)	1 (0.8)	1 (0.6)	1 (0.3)	29 (2.6)	31 (5.2)	16 (2.7)	10 (2.4)	12 (1.4)
Texas	6 (1.1)	2 (1.3)	1 (0.6)	1 (0.9)	2 (0.5)	30 (3.1)	24 (3.9)	14 (2.9)	10 (2.7)	14 (1.8)
Utah	5 (0.9)	5 (1.7)	1 (0.6)	0 (0.0)	2 (0.4)	34 (2.2)	36 (4.2)	17 (2.8)	15 (5.3)	18 (1.5)
Virginia	8 (1.4)	6 (2.2)	2 (1.2)	1 (0.7)	2 (0.7)	38 (2.4)	31 (2.6)	20 (2.9)	13 (4.1)	18 (1.9)
West Virginia	6 (1.1)	6 (2.0)	2 (0.6)	1 (0.8)	2 (0.5)	32 (2.4)	29 (3.7)	18 (2.1)	10 (2.4)	13 (1.8)
Wisconsin	7 (1.1)	6 (1.4)	2 (1.1)	1 (1.1)	2 (0.5)	39 (2.5)	36 (3.2)	24 (2.0)	12 (5.0)	21 (1.7)
Wyoming	6 (1.0)	6 (1.7)	1 (1.0)	1 (1.8)	2 (0.6)	37 (2.2)	37 (3.4)	21 (3.0)	15 (4.3)	20 (2.3)
TERRITORY										
Guam	1 (0.4)	2 (1.2)	0 (0.3)	0 (1.2)	0 (0.2)	7 (1.4)	9 (3.4)	7 (1.8)	5 (2.6)	5 (1.0)

*Did not satisfy one or more of the guidelines for school sample participation rates (see Appendix B for details).

The standard errors of the estimated percentages appear in parentheses. It can be said with 95 percent certainty that for each population of interest, the value for the whole population is within plus or minus two standard errors of the estimate for the sample. In comparing two estimates, one must use the standard error of the difference (see Appendix for details). When the proportion of students is either 0 percent or 100 percent, the standard error is inestimable. However, percentages 99.5 percent and greater were rounded to 100 percent and percentages 0.5 percent and less were rounded to 0 percent. ***Sample size insufficient to permit reliable estimate. There were fewer than 62 students.

SOURCE: National Assessment of Educational Progress (NAEP), 1992 Reading Assessment.

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TABLE 3.12 | Achievement Levels by Parents' Highest Level of Education, Grade 4, 1992 Reading Assessment (continued)

PUBLIC SCHOOLS	Percentage of Students At or Above Basic					Percentage of Students Below Basic				
	Graduated College	Some Education After High School	Graduated High School	Did Not Finish High School	I Don't Know	Graduated College	Some Education After High School	Graduated High School	Did Not Finish High School	I Don't Know
NATION	66 (2.0)	65 (3.3)	53 (2.6)	34 (3.9)	51 (1.8)	34 (2.0)	35 (3.3)	47 (2.6)	66 (3.9)	49 (1.8)
Northeast	74 (4.9)	64 (9.9)	54 (6.7)	*** (***)	53 (4.6)	26 (4.9)	36 (9.9)	46 (6.7)	*** (***)	47 (4.6)
Southeast	60 (3.3)	58 (8.0)	49 (5.2)	34 (6.8)	47 (4.6)	40 (3.3)	42 (8.0)	51 (5.2)	66 (6.8)	53 (4.6)
Central	68 (4.0)	68 (4.7)	59 (5.3)	*** (***)	56 (1.9)	32 (4.0)	32 (4.7)	41 (5.3)	*** (***)	44 (1.9)
West	61 (3.4)	66 (6.0)	50 (5.4)	34 (5.2)	48 (2.7)	39 (3.4)	34 (6.0)	50 (5.4)	66 (5.2)	52 (2.7)
STATES										
Alabama	56 (2.7)	61 (4.3)	47 (3.5)	34 (3.7)	40 (3.0)	44 (2.7)	39 (4.3)	53 (3.5)	66 (3.7)	60 (3.0)
Arizona	61 (2.0)	60 (4.5)	46 (3.9)	35 (5.7)	45 (2.1)	39 (2.0)	40 (4.5)	54 (3.9)	65 (5.7)	55 (2.1)
Arkansas	59 (2.5)	66 (3.0)	53 (3.1)	40 (3.8)	44 (2.5)	41 (2.5)	34 (3.0)	47 (3.1)	60 (3.8)	56 (2.5)
California	58 (3.0)	50 (5.4)	41 (4.5)	23 (4.7)	35 (2.5)	42 (3.0)	50 (5.4)	59 (4.5)	77 (4.7)	65 (2.5)
Colorado	71 (1.7)	70 (3.7)	52 (3.4)	41 (4.9)	50 (2.4)	29 (1.7)	30 (3.7)	48 (3.4)	59 (4.9)	50 (2.4)
Connecticut	78 (2.0)	76 (3.7)	56 (4.0)	42 (6.8)	53 (2.4)	22 (2.0)	24 (3.7)	44 (4.0)	58 (6.8)	47 (2.4)
Delaware	62 (2.3)	63 (4.0)	44 (3.3)	34 (7.0)	50 (2.6)	38 (2.3)	37 (4.0)	56 (3.3)	66 (7.0)	50 (2.6)
Dist. Columbia	34 (1.7)	35 (4.3)	25 (3.2)	20 (4.8)	20 (2.2)	66 (1.7)	65 (4.3)	75 (3.2)	80 (4.8)	80 (2.2)
Florida	55 (2.0)	59 (3.9)	47 (4.0)	38 (5.1)	44 (2.4)	45 (2.0)	41 (3.9)	53 (4.0)	62 (5.1)	56 (2.4)
Georgia	63 (2.6)	58 (4.2)	49 (3.1)	39 (5.0)	45 (2.0)	37 (2.6)	42 (4.2)	51 (3.1)	61 (5.0)	55 (2.0)
Hawaii	51 (2.9)	54 (4.7)	34 (3.4)	40 (6.3)	40 (2.2)	49 (2.9)	46 (4.7)	66 (3.4)	60 (6.3)	60 (2.2)
Idaho	73 (1.9)	75 (2.9)	57 (4.5)	45 (7.1)	54 (2.0)	27 (1.9)	25 (2.9)	43 (4.5)	55 (7.1)	46 (2.0)
Indiana	70 (2.1)	76 (3.0)	60 (3.5)	53 (6.2)	58 (2.7)	30 (2.1)	24 (3.0)	40 (3.5)	47 (6.2)	42 (2.7)
Iowa	79 (1.7)	78 (2.8)	66 (2.8)	42 (5.8)	60 (2.4)	21 (1.7)	22 (2.8)	34 (2.8)	58 (5.8)	40 (2.4)
Kentucky	63 (2.9)	67 (3.2)	57 (3.2)	39 (4.0)	46 (2.4)	37 (2.9)	33 (3.2)	43 (3.2)	61 (4.0)	54 (2.4)
Louisiana	47 (2.7)	56 (3.7)	39 (2.6)	30 (5.0)	39 (2.1)	53 (2.7)	44 (3.7)	61 (2.6)	70 (5.0)	61 (2.1)
Maine	81 (2.5)	84 (3.6)	70 (2.9)	51 (7.3)	61 (3.6)	19 (2.5)	16 (3.6)	30 (2.9)	49 (7.3)	39 (3.6)
Maryland	61 (2.0)	62 (3.8)	49 (3.4)	34 (6.2)	46 (2.5)	39 (2.0)	38 (3.8)	51 (3.4)	66 (6.2)	54 (2.5)
Massachusetts	81 (1.5)	81 (3.5)	69 (3.3)	39 (6.2)	58 (2.9)	19 (1.5)	19 (3.5)	31 (3.3)	61 (6.2)	42 (2.9)
Michigan	66 (2.7)	71 (3.3)	54 (3.8)	45 (6.4)	51 (2.4)	34 (2.7)	29 (3.3)	46 (3.8)	55 (6.4)	49 (2.4)
Minnesota	71 (2.5)	76 (3.5)	64 (3.1)	*** (***)	56 (2.3)	29 (2.5)	24 (3.5)	36 (3.1)	*** (***)	44 (2.3)
Mississippi	43 (2.3)	49 (4.1)	38 (3.5)	25 (3.8)	33 (2.4)	57 (2.3)	51 (4.1)	62 (3.5)	75 (3.8)	67 (2.4)
Missouri	72 (2.5)	72 (3.7)	59 (3.1)	53 (5.5)	55 (2.4)	28 (2.5)	28 (3.7)	41 (3.1)	47 (5.5)	45 (2.4)
Nebraska	74 (1.9)	77 (3.1)	60 (3.3)	*** (***)	52 (2.3)	27 (1.9)	23 (3.1)	40 (3.3)	*** (***)	48 (2.3)
New Hampshire	80 (2.2)	80 (3.7)	65 (3.9)	54 (7.7)	67 (3.1)	20 (2.2)	20 (3.7)	35 (3.9)	46 (7.7)	33 (3.1)
New Jersey	77 (2.2)	77 (3.8)	59 (4.1)	45 (6.0)	53 (2.7)	23 (2.2)	23 (3.8)	41 (4.1)	55 (6.0)	47 (2.7)
New Mexico	64 (2.6)	61 (3.4)	52 (3.5)	28 (6.6)	42 (2.0)	36 (2.6)	39 (3.4)	48 (3.5)	72 (6.6)	58 (2.0)
New York	70 (2.4)	67 (4.1)	52 (4.3)	36 (6.5)	49 (2.5)	30 (2.4)	33 (4.1)	48 (4.3)	64 (6.5)	51 (2.5)
North Carolina	62 (2.0)	60 (4.1)	46 (3.7)	35 (4.6)	47 (2.2)	38 (2.0)	40 (4.1)	54 (3.7)	65 (4.6)	53 (2.2)
North Dakota	80 (2.0)	77 (4.0)	69 (3.8)	*** (***)	59 (2.5)	20 (2.0)	23 (4.0)	31 (3.8)	*** (***)	41 (2.5)
Ohio	66 (1.8)	66 (5.4)	57 (4.1)	45 (5.2)	55 (2.4)	34 (1.8)	34 (5.4)	43 (4.1)	55 (5.2)	45 (2.4)
Oklahoma	71 (2.3)	74 (3.7)	60 (4.1)	52 (4.9)	58 (1.8)	29 (2.3)	26 (3.7)	40 (4.1)	48 (4.9)	42 (1.8)
Pennsylvania	73 (2.2)	76 (3.8)	59 (3.5)	51 (5.2)	55 (2.6)	27 (2.2)	24 (3.8)	41 (3.5)	49 (5.2)	45 (2.6)
Rhode Island	70 (2.5)	73 (3.9)	51 (3.3)	45 (6.7)	51 (2.8)	30 (2.5)	27 (3.9)	49 (3.3)	55 (6.7)	49 (2.8)
South Carolina	57 (2.3)	66 (3.7)	39 (3.1)	35 (5.0)	45 (3.0)	43 (2.3)	34 (3.7)	61 (3.1)	65 (5.0)	55 (3.0)
Tennessee	62 (2.9)	67 (4.6)	52 (3.1)	39 (4.8)	43 (2.2)	38 (2.9)	33 (4.6)	48 (3.1)	61 (4.8)	57 (2.2)
Texas	64 (2.7)	64 (4.2)	48 (2.9)	40 (3.8)	46 (2.9)	36 (2.7)	36 (4.2)	52 (2.9)	60 (3.8)	54 (2.9)
Utah	72 (2.1)	73 (3.2)	58 (3.5)	47 (6.3)	56 (2.6)	28 (2.1)	27 (3.2)	42 (3.5)	53 (6.3)	44 (2.6)
Virginia	73 (2.3)	71 (3.7)	57 (3.1)	47 (4.5)	55 (2.8)	27 (2.3)	29 (3.7)	43 (3.1)	53 (4.5)	45 (2.8)
West Virginia	69 (2.0)	67 (2.9)	55 (2.9)	43 (4.2)	47 (2.3)	31 (2.0)	33 (2.9)	45 (2.9)	57 (4.2)	53 (2.3)
Wisconsin	75 (2.3)	79 (3.5)	63 (2.5)	56 (8.5)	59 (2.1)	25 (2.3)	21 (3.5)	37 (2.5)	44 (8.5)	41 (2.1)
Wyoming	77 (1.8)	77 (3.5)	63 (4.4)	48 (6.2)	58 (2.2)	23 (1.8)	23 (3.5)	37 (4.4)	52 (6.2)	42 (2.2)
TERRITORY										
Guam	26 (2.0)	36 (7.0)	26 (3.2)	18 (4.9)	24 (2.3)	74 (2.0)	64 (7.0)	74 (3.2)	82 (4.9)	76 (2.3)

Average Overall Reading Proficiency by Performance Bands for State Demographic Subgroups

FIGURE 3.1 presents the average reading proficiency for demographic subgroups within the states, the District of Columbia, and Guam by 20 percent bands (quintiles). The quintiles of performance, in ascending order, show the lowest to highest performing states within each subgroup according to the following 20 percent intervals: 1) 0 to 20 percent, 2) 20 to 40 percent, 3) 40 to 60 percent, 4) 60 to 80 percent, and 5) 80 to 100 percent. At the highest, or fifth quintile for each of the demographic characteristics (column by column), one will find the states whose average reading proficiency for that subgroup was in the top 20 percent across states.

This information can be used to summarize performance across states for the race/ethnicity, gender, community type, and parents' education data presented in earlier sections of this chapter. That is, for each demographic characteristic, the average reading proficiency of the states has been ranked and presented by performance bands established according to quintiles. The information is useful to compare across states within each demographic characteristic, and in a relative sense across characteristics.

For example, the average reading proficiency of White students in West Virginia was in the lowest quintile for White students across states. In comparison, the average proficiency for West Virginia's Black students fell in the highest quintile. Therefore, across states the performance of the White students in West Virginia was among the lowest and the performance of Black students was among the highest. This does not mean, however, that in West Virginia Black students had higher average proficiency than White students. The data in this figure cannot be used to compare actual average proficiency across subgroups within a state. Information about the actual average proficiency of subgroups within states was presented in TABLE 3.2 (race/ethnicity), TABLE 3.5 (gender), TABLE 3.8 (type of community), and TABLE 3.11 (parents' education level).

As another example from FIGURE 3.1, in Colorado, the disadvantaged urban students had average proficiency among the second highest 20 percent of the states, while the advantaged urban students were in the lowest quintile of their subgroup (notwithstanding that the advantaged urban group outperformed the disadvantaged urban group by a substantial margin).

FIGURE 3.1

Average Overall Reading Proficiency by Selected Demographics for Five Performance Bands (Quintiles)
1992 Grade 4

THE NATION'S REPORT CARD naep	RACE/ETHNICITY			GENDER		SIZE AND TYPE OF COMMUNITY				PARENTS' EDUCATION			
	White	Black	Hispanic	Male	Female	Advantaged Urban	Disadvantaged Urban	Extreme Rural	Other	College Graduate	Some College	High School Graduate	Less than High School
Alabama (AL)	1	1	1	1	1	2	2	2	1	1	1	2	2
Arizona (AZ)	2	4	3	1	2	1	4	1	1	2	1	1	1
Arkansas (AR)	2	2	1	2	2	x	3	2	2	1	3	3	3
California (CA)	1	1	1	1	1	3	1	x	1	1	1	1	1
Colorado (CO)	2	5	4	3	3	1	4	3	3	3	3	3	3
Connecticut (CT)	5	3	2	5	4	3	2	x	5	5	4	3	3
Delaware (DE)*	3	3	1	2	3	1	5	3	3	2	2	1	2
District of Columbia (DC)	5	1	1	1	1	1	1	x	1	1	1	1	1
Florida (FL)	1	1	4	1	1	1	1	3	2	1	1	2	2
Georgia (GA)	3	3	2	3	2	3	2	2	2	2	2	2	3
Hawaii (HI)	1	2	2	1	1	1	1	1	1	1	1	1	2
Idaho (ID)	3	x	3	4	3	2	x	3	3	4	4	3	4
Indiana (IN)	4	4	5	4	4	5	4	4	4	4	4	5	5
Iowa (IA)	4	5	5	5	5	5	5	5	5	5	5	5	4
Kentucky (KY)	1	3	2	2	3	5	3	2	2	2	3	3	3
Louisiana (LA)	1	2	1	1	1	1	1	1	1	1	1	1	2
Maine (ME)*	5	x	5	5	5	x	x	5	5	5	5	5	5
Maryland (MD)	2	2	3	2	2	1	1	2	2	2	2	2	1
Massachusetts (MA)	5	5	4	5	5	4	4	x	5	5	5	5	4
Michigan (MI)	3	2	3	3	3	5	2	4	3	3	3	3	4
Minnesota (MN)	3	2	4	4	4	2	x	3	4	4	5	5	x
Mississippi (MS)	1	1	1	1	1	x	1	1	1	1	1	1	1
Missouri (MO)	4	3	4	4	4	5	2	4	4	4	3	4	5
Nebraska (NE)*	4	4	5	4	5	4	5	5	3	4	5	4	x
New Hampshire (NH)*	5	x	5	5	5	4	x	5	5	5	5	5	5
New Jersey (NJ)*	5	4	3	5	5	5	3	x	5	5	4	4	4
New Mexico (NM)	3	5	3	2	1	3	4	1	1	3	2	3	1
New York (NY)*	4	5	1	3	3	2	3	4	4	3	2	2	2
North Carolina (NC)	2	3	2	2	2	3	4	2	2	2	2	2	1
North Dakota (ND)	4	x	5	5	5	3	x	5	5	5	4	5	x
Ohio (OH)	2	4	4	3	3	4	3	4	4	3	3	4	4
Oklahoma (OK)	3	4	5	4	4	2	5	4	4	3	4	4	5
Pennsylvania (PA)	5	2	3	4	4	3	3	5	5	4	5	4	5
Rhode Island (RI)	4	1	2	3	3	4	2	x	4	3	4	2	3
South Carolina (SC)	2	3	2	2	2	2	2	1	2	2	2	1	2
Tennessee (TN)	2	2	2	3	2	4	2	2	3	2	3	3	3
Texas (TX)	3	4	3	2	2	5	4	2	2	3	3	2	2
Utah (UT)	3	x	4	3	4	2	3	4	3	4	4	4	4
Virginia (VA)	5	5	4	4	4	5	4	3	3	4	3	4	4
West Virginia (WV)	1	5	3	3	3	x	5	3	3	3	3	3	3
Wisconsin (WI)	5	4	5	5	5	4	5	4	5	5	5	5	5
Wyoming (WY)	4	x	5	5	5	3	5	5	4	5	5	5	5
Guam (GU)	1	1	1	1	1	x	x	1	1	1	1	1	1

Quintiles of Performance

bottom 20 percent — top 20 percent

1	2	3	4	5
1st	2nd	3rd	4th	5th

lower ⟵ proficiency ⟶ higher

States categorized in the bottom 20 percent of performance have average reading proficiencies in the lowest fifth of the average reading proficiency distribution of all states and are indicated by the number 1 (first quintile). States with average proficiencies in the top 20 percent of the distribution are indicated by the number 5 (fifth quintile). The numbers 2, 3, and 4 indicate states with average proficiencies in the second, third, and fourth fifths of the distribution.

* Did not satisfy one or more of the guidelines for sample participation rates (see Appendix for details).

x Sample size too small (fewer than 62 students) to permit reliable reporting of performance bands (quintiles).

Summary

Performance across demographic groups varied considerably in NAEP's 1992 reading assessment of fourth, eighth, and twelfth graders. For the most part, patterns seen for fourth graders nationally were reflected in the results for the Trial State Assessment Program at grade 4.

White students had higher average proficiency than Black, Hispanic, and American Indian students at grade 4. Asian/Pacific Islander students who performed lower than, but not statistically differently from White fourth graders, had higher average proficiency than Black and Hispanic fourth graders. At grade 8, White and Asian/Pacific Islander students had higher average proficiency than Black and Hispanic students. At grade 12, White and Asian/Pacific Islander students performed similarly, and had higher average reading proficiency than Black, Hispanic, and American Indian students.

Across the racial/ethnic groups very few students at any grade reached the Advanced achievement level, from 0 to 6 percent. There was wide variation in the percentages reaching the Proficient level. Looking across the three grades assessed, from 21 to 43 percent of the White and Asian/Pacific Islander students reached this level compared to from 7 to 24 percent of the Black, Hispanic, and American Indian students. For the Basic level, the differences also were considerable. For example, at grade 4, 68 percent of the White fourth graders, 77 percent of the eighth graders, and 82 percent of the twelfth graders performed at or above the Basic level of performance. In contrast, 69 percent of the Black fourth graders, 56 percent of the eighth graders, and 46 percent of the twelfth graders did *not* reach the Basic level.

At all three grades assessed, females had higher average reading proficiency than did males. The gender advantage favoring females also was found across grades for each of the three achievement levels. Across the grades, the gender gap was 10 to 12 percent at the Basic level, 6 to 11 percent at the Proficient level, and 2 percent at the Advanced level. For example, at grade 12, 80 percent of the females reached the Basic level, compared to 70 percent of the males, 42 percent of the females reached the Proficient level, compared to 31 percent of the males, and 4 percent of the females reached the Advanced level, compared to 2 percent of the males.

Results across community types also reflected large gaps in the average reading proficiency of students attending advantaged urban schools as compared to those attending disadvantaged urban schools. Advantaged urban students had higher average proficiency than students attending schools in communities classified as extreme rural, disadvantaged urban, or as "other." Conversely, students in disadvantaged urban communities had lower average proficiency than students in any of the three other types of communities.

These differences also were evidenced in the percentages of students performing at or above the achievement levels. For example, at grade 4, 82 percent of the advantaged urban students, compared to 25 percent of the disadvantaged urban students, reached the Basic achievement level. Forty-eight percent of the advantaged urban fourth graders were estimated to be at or above the Proficient level compared to 5 percent of the disadvantaged urban students, and 12 percent of the advantaged urban students compared to 0 percent of the disadvantaged urban students reached the Advanced level. At grade 8, the corresponding results were 87 compared to 43 percent reaching the Basic level, 50 compared to 9 percent reaching the Proficient level, and 5 compared to 0 percent reaching the Advanced level, respectively. At grade 12, the data revealed 86 compared to 57 percent reaching the Basic level, 52 compared to 20 percent reaching the Proficient level, and 6 compared to 1 percent reaching the Advanced level, respectively.

At grade 4, students whose parents had graduated from college or had some education after high school performed similarly, and had higher average proficiency than students whose parents had only a high school education or students who did not know their parents' education level. More than one-third of the grade 4 students did not know their parents' level of education. Fourth graders whose parents did not graduate from high school had the lowest average reading proficiency. At grades 8 and 12, there was a positive relationship between level of parents' education and average reading proficiency, with students' reports of their parents' education level (graduated from college, some education after high school, graduated from high school, and did not graduate from high school) being associated with significantly decreasing averages in reading achievement.

The results for fourth graders participating in the Trial State Assessment Program tended to reflect the national patterns at grade 4 for the various demographic subgroups. However, it was observed that relative performance among the states varied by subgroup for some participating jurisdictions. For example, West Virginia was not among the top-performing states -- but average reading proficiency of Black fourth graders in West Virginia was among the top 20 percent of the states. In comparison, the average reading proficiency of White fourth graders in West Virginia was among the bottom 20 percent of the states. It should be emphasized, however, the Black students in West Virginia did not have higher average proficiency than White students. As another example, the advantaged urban fourth graders in Colorado had average reading proficiency in the bottom 20 percent across states, whereas the disadvantaged urban fourth graders, on average, performed in the second-to-the-highest 20 percent performance band (or quintile).

Chapter Four

The Context of Reading Instruction

Students typically learn to read within a classroom environment that involves some type of formal or systematic reading program directed by a teacher. Certain aspects of the reading program may be established by school or district guidelines, such as the amount of time allotted to reading instruction or the selection of curriculum materials. Other aspects of the instruction provided by teachers may represent their individual beliefs about the nature of reading or how reading should be taught. All of these factors merge to create a context for students developing as readers.

The instructional context within which students are taught may have considerable impact on their literacy development.[14] The amount of time devoted to specific reading abilities, as well as the emphasis placed on specific approaches to teaching reading have been found to influence students' success in acquiring reading proficiency.[15] In order to examine how these aspects of reading instruction relate to students' overall reading proficiency, and because of the emphasis placed on learning to read in the elementary grades, NAEP asked the teachers of fourth-grade students in the reading assessment about their methods of teaching reading. This chapter looks at teachers' responses to questions about the time they spend teaching reading, their general approach to delivering reading instruction, and the types of materials that form the core of their reading program.

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[14] M. J. Adams, *Beginning to Read: Thinking and Learning About Print* (Cambridge, MA: MIT Press, 1990).

K. Goodman, "Whole-Language Research: Foundations and Development," *The Elementary School Journal, 90*, 207-221, 1989.

D. Bloome, (Ed.), *Classrooms and Literacy* (Norwood, NJ: Ablex, 1989).

[15] M. Dewalt, M. C. Whyne-Winkler, and S. Rubel, "Effects of Instructional Method on Reading Comprehension," *Reading Improvement*. 30(2), 93-100, 1993.

W. E. Blanton, and G. B. Moorman, "The Presentation of Reading Lessons," *Reading, Research and Instruction*, 29(3), 35-55, 1990.

Instructional Time

TABLE 4.1 provides national proficiency information in light of the amount of time the teachers of fourth-grade students in the reading assessment reported they devoted to reading instruction on a typical day. The table includes data for the nation, three race/ethnicity groups, male and female students, as well as the top- and lower-third performing schools. To identify the top one-third and bottom one-third of the schools, NAEP sorted schools by their students' average performance on the reading assessment. By looking at the relationship between instructional practice and type of school performance, it can be ascertained whether some approaches are used more frequently with higher-performing students and some more frequently with lower-performing students.

- Approximately one-half (51 percent) of fourth-grade students had teachers who reported spending 60 minutes on reading instruction in a typical day. Nearly one-third (31 percent) had teachers who spend only 30 or 45 minutes, while 18 percent had teachers devoting as much as 90 minutes or more to reading instruction each day.

- Nearly one-fourth (24 percent) of students in the lower-performing schools were provided with 90 minutes or more of reading instruction on a typical day, as compared to 16 percent of students in the top-performing schools. Although the difference between percentages is not statistically significant, this may suggest that lower-performing schools recognize the literacy needs of their students and provide them with longer periods of reading instruction.

TABLE 4.2 indicates how much time was spent on reading instruction for students in the trial state assessments. In general, the same pattern observed for the nation was apparent for the states as well. However, some exceptions were observed. For example, Mississippi had an estimated 70 percent of its students receiving 90 minutes or more of instruction per day, while Minnesota and Oklahoma had fewer than 10 percent of their students receiving the same amount of instruction.

TABLE 4.1 **Teachers' Reports on the Amount of Time Spent on Reading Instruction on a Typical Day, Grade 4, 1992 Reading Assessment**

"About how much time do you spend on reading instruction on a typical day?"	30 or 45 Minutes		60 Minutes		90 Minutes or More	
	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency
Nation	31 (2.9)	220 (2.1)	51 (3.1)	219 (1.7)	18 (1.6)	216 (2.5)
Top One-Third	35 (4.2)	237 (2.2)	50 (4.2)	236 (2.0)	16 (3.5)	234 (3.6)
Bottom One-Third	32 (4.7)	199 (3.0)	45 (4.7)	196 (2.0)	24 (3.8)	196 (2.6)
White	32 (3.3)	226 (2.2)	53 (3.3)	225 (1.9)	15 (1.7)	226 (2.6)
Black	32 (4.0)	198 (3.8)	41 (4.2)	194 (2.8)	28 (4.0)	194 (3.3)
Hispanic	29 (3.8)	206 (5.1)	48 (4.7)	204 (2.8)	23 (4.0)	202 (3.9)
Male	31 (2.9)	215 (2.2)	51 (3.2)	215 (1.9)	18 (1.8)	212 (3.1)
Female	32 (3.0)	225 (2.4)	50 (3.2)	223 (2.0)	18 (1.7)	219 (2.7)

The standard errors of the estimated percentages and proficiencies appear in parentheses. It can be said with 95 percent certainty that for each population of interest, the value for the whole population is within plus or minus two standard errors of the estimate for the sample. In comparing two estimates, one must use the standard error of the difference (see Appendix for details). Percentages may not total 100 percent due to rounding error.

SOURCE: National Assessment of Educational Progress (NAEP), 1992 Reading Assessment.

TABLE 4.2 | Teachers' Reports on the Amount of Time Spent on Reading Instruction on a Typical Day, Grade 4, 1992 Reading Assessment

PUBLIC SCHOOLS	'About how much time do you spend on reading instruction on a typical day?'					
	30 or 45 Minutes		60 Minutes		90 Minutes or More	
	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency
NATION	29 (3.2)	217 (2.3)	52 (3.4)	218 (1.9)	19 (1.8)	215 (2.6)
Northeast	24 (3.7)	225 (7.3)	44 (5.4)	219 (5.3)	33 (4.6)	218 (4.3)
Southeast	32 (5.4)	214 (4.1)	47 (4.6)	213 (3.6)	20 (3.9)	212 (7.2)
Central	24 (7.3)	216 (3.4)!	67 (8.6)	224 (3.1)	9 (2.1)	214 (5.0)!
West	35 (7.6)	216 (5.0)!	47 (7.2)	214 (3.4)	18 (4.3)	211 (4.0)!
STATES						
Alabama	12 (1.9)	204 (3.5)	63 (3.6)	211 (2.3)	25 (3.5)	205 (3.6)
Arizona	39 (3.4)	209 (2.8)	42 (3.6)	211 (1.7)	19 (3.1)	213 (2.4)
Arkansas	45 (3.9)	210 (2.1)	42 (3.7)	213 (1.7)	13 (3.0)	212 (3.4)!
California	20 (2.7)	212 (3.5)	46 (3.5)	204 (3.1)	34 (3.3)	198 (4.3)
Colorado	27 (2.7)	219 (2.2)	49 (2.9)	219 (1.8)	24 (3.0)	216 (2.2)
Connecticut	18 (3.4)	228 (2.8)	47 (4.0)	228 (1.8)	35 (4.0)	218 (3.4)
Delaware*	39 (1.1)	210 (1.7)	41 (1.2)	216 (1.2)	20 (0.8)	222 (2.1)
Dist. Columbia	34 (1.5)	189 (2.0)	46 (1.6)	186 (1.6)	20 (1.3)	186 (2.3)
Florida	25 (2.8)	212 (2.0)	48 (3.1)	209 (1.6)	27 (3.1)	207 (3.6)
Georgia	22 (3.1)	215 (3.2)	47 (3.3)	211 (2.5)	31 (3.1)	214 (2.7)
Hawaii	37 (2.8)	199 (2.7)	37 (3.2)	205 (2.5)	27 (3.3)	207 (3.2)
Idaho	31 (3.2)	221 (1.9)	55 (3.3)	221 (1.3)	14 (2.5)	218 (2.7)
Indiana	40 (4.1)	224 (2.0)	50 (3.5)	222 (2.0)	10 (2.4)	220 (3.3)!
Iowa	29 (3.8)	226 (1.7)	50 (4.2)	228 (1.5)	22 (3.3)	225 (2.3)
Kentucky	35 (3.6)	213 (2.1)	51 (3.6)	215 (1.7)	14 (2.6)	210 (4.1)
Louisiana	20 (3.1)	206 (2.6)	69 (3.3)	205 (1.6)	11 (2.1)	203 (5.6)!
Maine*	29 (3.5)	228 (2.1)	52 (3.9)	228 (1.6)	19 (3.4)	232 (2.8)
Maryland	20 (2.9)	218 (3.4)	37 (3.3)	213 (2.5)	43 (3.3)	209 (3.1)
Massachusetts	24 (3.4)	229 (2.3)	57 (4.3)	229 (1.5)	19 (3.4)	223 (2.8)
Michigan	28 (4.1)	222 (4.3)	59 (4.0)	216 (1.5)	14 (2.3)	213 (2.9)
Minnesota	27 (3.2)	223 (3.3)	66 (3.9)	221 (1.5)	7 (2.2)	227 (2.8)!
Mississippi	10 (2.3)	203 (4.2)!	20 (3.3)	196 (3.6)	70 (3.9)	201 (1.8)
Missouri	24 (3.5)	224 (2.6)	61 (3.5)	221 (1.7)	16 (3.2)	219 (4.5)!
Nebraska*	30 (3.6)	223 (2.3)	52 (3.9)	223 (1.5)	17 (2.8)	221 (2.7)
New Hampshire*	37 (3.6)	228 (1.7)	47 (3.5)	231 (1.9)	17 (2.7)	228 (2.6)
New Jersey*	29 (4.7)	225 (3.8)	46 (5.0)	229 (2.2)	25 (3.9)	217 (4.0)
New Mexico	30 (3.8)	213 (3.7)	49 (3.9)	211 (1.9)	21 (3.0)	212 (3.4)
New York*	34 (3.7)	220 (2.5)	37 (3.3)	216 (2.5)	29 (3.4)	211 (3.3)
North Carolina	44 (3.0)	213 (2.0)	40 (3.3)	213 (2.1)	16 (2.4)	211 (3.2)
North Dakota	37 (4.3)	229 (2.1)	52 (4.2)	225 (2.1)	12 (3.1)	227 (3.4)!
Ohio	18 (2.9)	214 (3.2)	67 (3.7)	221 (1.6)	14 (2.8)	212 (3.8)!
Oklahoma	42 (3.0)	220 (1.7)	49 (3.1)	224 (1.3)	9 (2.0)	222 (3.6)!
Pennsylvania	26 (3.7)	222 (2.8)	58 (3.6)	223 (1.9)	16 (2.4)	217 (3.3)
Rhode Island	16 (2.9)	220 (6.0)	52 (4.4)	223 (2.1)	31 (3.6)	210 (2.7)
South Carolina	37 (3.3)	211 (2.2)	44 (3.5)	213 (2.1)	19 (2.8)	203 (3.9)
Tennessee	30 (3.6)	211 (2.5)	56 (3.7)	213 (2.0)	14 (2.5)	215 (4.0)
Texas	36 (4.2)	218 (2.3)	45 (3.7)	216 (2.9)	20 (3.3)	208 (4.9)
Utah	38 (3.4)	222 (1.8)	45 (3.5)	222 (1.6)	17 (2.9)	221 (3.3)
Virginia	29 (3.3)	225 (2.8)	45 (2.9)	222 (1.9)	26 (3.2)	222 (2.7)
West Virginia	17 (2.9)	216 (3.2)	63 (3.3)	217 (1.7)	20 (2.7)	213 (2.8)
Wisconsin	17 (2.5)	222 (3.4)	64 (3.3)	228 (1.1)	18 (2.9)	219 (2.8)
Wyoming	27 (3.4)	227 (2.5)	58 (4.1)	224 (1.5)	15 (2.6)	222 (2.4)
TERRITORY						
Guam	28 (1.1)	182 (2.2)	43 (0.9)	187 (2.0)	30 (1.1)	174 (2.2)

*Did not satisfy one or more of the guidelines for school sample participation rates (see Appendix B for details).

The standard errors of the estimated percentages and proficiencies appear in parentheses. It can be said with 95 percent certainty that for each population of interest, the value for the whole population is within plus or minus two standard errors of the estimate for the sample. In comparing two estimates, one must use the standard error of the difference (see Appendix for details). Percentages may not total 100 percent due to rounding error. !Interpret with caution - the nature of the sample does not allow accurate determination of the variability of this estimated statistic.

SOURCE: National Assessment of Educational Progress (NAEP), 1992 Reading Assessment.

Instructional Emphasis

The various instructional approaches currently being used to teach reading in classrooms across the country continue to be the focus of innumerable research and theoretical articles.[16] The factors that determine which instructional approaches are emphasized in any given classroom may include the reading abilities of the students, as well as the beliefs about effective instruction held by their teachers. In addition, certain types of instructional approaches may be more appropriate depending upon the grade being taught. Throughout the literature about teaching and learning in reading, the focus is on integrating these approaches as necessary to provide the most effective instruction for the particular children involved. In considering teachers' reports about their reading instruction, it is important to remember that the data pertain to fourth graders -- students, who by-and-large have developed reading skills.

Teachers reported that most fourth graders were receiving at least some instructional emphasis in literature-based reading and nearly all were receiving some emphasis in integrating reading and writing. These approaches tend to focus on authentic reading experiences for students and stress real-world literacy applications.[17] Proponents of these methods urge that reading should develop naturally and functionally, and thus involve the use of authentic materials.[18] Furthermore, integrating reading and writing in instruction is considered by some to be imperative since writing can influence students' interests in reading, attitudes toward reading, and approaches to reading[19].

Additionally, certain educators advocate a holistic method that builds on the language and interests of students and emphasizes student-constructed meaning over specific skill development.[20] Teachers reported that approximately four-fifths of the fourth graders were receiving at least some instructional emphasis in the whole language approach. Many educators call for an overall instructional strategy that combines aspects of a whole-language program with more directive instructional techniques so that students have opportunities to learn specific competencies while engaged in collaborative literacy activities.[21]

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[16] F. Smith, "Learning to Read: The Never-ending Debate," *Phi Delta Kappan*, 432-441, 1992.

J. A. Samuels, and A. E. Farstrup, (Eds.), *What Research Has to Say About Reading Instruction*, (2nd ed.), (Newark, DE: International Reading Association, 1992).

[17] L. M. McGee, "Focus on Research: Exploring the Literature-Based Reading Revolution," *Language Arts*, 69, 529-537, 1992.

J. C. Harste, K. G. Short, and C. Burke, *Creating Classroom for Authors: The Reading-Writing Connection* (Portsmouth, NH: Heinemann, 1988).

[18] L.R. Giddings, "Literature-Based Reading Instruction: An Analysis," Paper presented at the Annual Meeting of the International Reading Association (May, 1991).

[19] R.J. Tierney, "Redefining Reading Comprehension," *Educational Leadership*, 37-42, March, 1990.

The fewest fourth graders were receiving instructional emphasis in phonics, probably because this approach is recommended primarily for young or delayed readers in order for them to develop a sufficient level of automaticity in word recognition that supports fluent reading.[22] It even has been recommended that phonics instruction should be suspended after the second grade if students demonstrate adequate abilities.[23] Still, other educators have gone so far as to suggest that emphasizing phonics instruction separate from meaningful reading situations may actually inhibit development of important comprehension and affective aspects of reading.[24]

When teachers of fourth-grade students in the reading assessment were asked to characterize their reading instruction, the approaches were not treated as being mutually exclusive, so teachers could claim "heavy emphasis" on all four approaches. It would appear from the results that most teachers implement an eclectic reading curriculum with emphasis on more than one approach. TABLE 4.3 provides information about their responses.

- Most students in the 1992 reading assessment were being taught with either a heavy emphasis (49 percent) on literature-based reading or a moderate emphasis (39 percent). Only 12 percent were being taught with little or no emphasis on this approach.

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[20] K. S. Goodman, "Beyond Basal Readers: Taking Charge of Your Own Teaching," *Learning*, 16(2), 65-66, 1987.

[21] D. L. Spiegel, "Blending Whole Language and Systematic Direct Instruction," *The Reading Teacher*, 46(1), 38-44, 1992.

[22] S. A. Stahl "Saying the 'P' Word: Nine Guidelines for Exemplary Phonics Instruction," *The Reading Teacher*, 34, 618-625, 1992.

[23] R.C. Anderson, E.H. Hiebert, J.A. Scott, and I.A.G. Wilkinson, *Becoming a Nation of Readers: The Report of the Commission on Reading* (U.S. Department of Education: The National Institute of Education, 1984).

[24] P.D. Pearson, R. Barr, M.L. Kamil, and P. Mosenthal, *Handbook of Reading Research* (New York: Longman, 1984).

- Similarly, an overwhelming majority (98 percent) of students had teachers who reported placing at least moderate or heavy emphasis on the integration of reading and writing during reading instruction. Some studies have described a historical separation of reading and writing in the curriculum.[25] With over half (54 percent) of the fourth-grade students receiving a heavy emphasis on integrating reading and writing, there appears to be at least some movement away from a separation of these two processes.

- The fourth-grade students whose teachers indicated a heavy emphasis on literature-based reading had higher average reading proficiencies than students whose teachers indicated little or no emphasis, and a similar (but non-statistically significant) pattern was noted for emphasis on integrating reading and writing. This finding may be consistent with research suggesting that students benefit from reading instruction that draws on authentic reading materials and integrates reading with other language processes.[26] On the other hand teachers may simply tend to use literature-based and integrative writing instruction with more proficient readers because these are the students who can handle these literature and writing tasks more effectively.

- A majority of the students (82 percent) had teachers who indicated at least moderate emphasis on whole-language instruction in their classrooms. Forty percent of students in the assessment were being taught by teachers who placed a heavy emphasis on this approach. Average reading proficiency did not differ according to the degree of emphasis on whole language instruction.

- Eleven percent of the fourth-grade students had teachers who reported placing heavy emphasis on phonics instruction and one-half had moderate emphasis on phonics instruction in their classrooms. More than one-third (39 percent) had teachers who indicated that phonics received little or no emphasis in their reading instruction.

- Students whose teachers heavily emphasized phonics instruction had lower average proficiency than students whose teachers indicated that they placed little or no emphasis on phonics instruction. Although some educators have argued that after a certain point stressing a phonics approach can inhibit learning, it is more likely that the tendency to use phonics with young readers carries over into remedial situations. The small percentage of fourth graders receiving heavy emphasis in phonics may be those needing special attention.

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[25] A. H. Dyson, (Ed.), *Collaboration Through Writing and Reading: Exploring Possibilities* (Urbana, IL: National Council of Teachers of English, 1989).

[26] P.J. Hagerty, E.H. Hiebert, and M.K. Owens, "Students' Comprehension, Writing, and Perceptions in Two Approaches to Literacy Instruction," In J. Zutell, and S. McCormick (Eds.) *Cognitive and Social Perspectives for Literacy Research and Instruction: 38th Yearbook of the National Reading Conference* (Chicago, IL: National Reading Conference, 1991).

- In fact, greater percentages of fourth graders in the lower one-third performing schools were receiving a heavy instructional emphasis on phonics (17 percent) than they were in the upper one-third performing schools (6 percent).

TABLE 4.3 **Teachers' Reports on Instructional Emphases, Grade 4, 1992 Reading Assessment**

	Heavy Emphasis		Moderate Emphasis		Little or No Emphasis	
	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency
Literature-Based Reading	49 (3.0)	221 (1.9)	39 (3.2)	218 (1.8)	12 (1.9)	212 (2.9)
Top One-Third	58 (4.0)	238 (1.8)	33 (4.4)	235 (2.3)	9 (2.4)	231 (4.6)
Bottom One-Third	46 (5.3)	194 (2.5)	39 (4.6)	200 (2.2)	15 (4.0)	198 (3.8)
Integration of Reading and Writing	54 (2.6)	220 (2.1)	44 (2.5)	217 (1.6)	3 (0.8)	212 (5.0)
Top One-Third	58 (4.4)	238 (1.7)	39 (4.2)	234 (2.5)	3 (1.7)	229 (3.6)
Bottom One-Third	49 (4.2)	221 (1.6)	49 (4.1)	216 (1.8)	2 (0.9)	208 (8.3)
Whole Language	40 (2.5)	220 (2.5)	42 (2.5)	218 (1.2)	19 (1.5)	218 (2.0)
Top One-Third	46 (4.2)	240 (2.2)	39 (4.4)	234 (1.7)	15 (3.0)	233 (2.0)
Bottom One-Third	42 (4.0)	194 (2.3)	36 (3.7)	196 (2.4)	22 (2.8)	205 (3.3)
Phonics	11 (1.4)	208 (3.1)	50 (3.0)	218 (1.2)	39 (2.2)	222 (2.3)
Top One-Third	6 (2.2)	233 (4.9)	46 (4.4)	235 (1.4)	48 (4.6)	237 (2.3)
Bottom One-Third	17 (2.3)	190 (3.0)	50 (4.5)	197 (2.1)	33 (4.3)	200 (3.5)

The standard errors of the estimated percentages and proficiencies appear in parentheses. It can be said with 95 percent certainty that for each population of interest, the value for the whole population is within plus or minus two standard errors of the estimate for the sample. In comparing two estimates, one must use the standard error of the difference (see Appendix for details). Percentages may not total 100 percent due to rounding error.

SOURCE: National Assessment of Educational Progress (NAEP), 1992 Reading Assessment.

TABLES 4.4 through 4.7 provide the corresponding state information about the instructional emphasis placed on literature-based reading, integrating reading and writing, whole language approaches, and phonics by fourth-grade teachers with students in the reading assessment. Except for a few variations, the pattern remains much the same for the states as for the nation.

TABLE 4.4 | Teachers' Reports on the Instructional Emphasis Placed on Literature-Based Reading, Grade 4, 1992 Reading Assessment

PUBLIC SCHOOLS	Heavy Emphasis		Moderate Emphasis		Little or No Emphasis	
	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency
NATION	50 (3.1)	220 (2.0)	38 (3.3)	217 (1.9)	11 (1.9)	208 (3.2)
Northeast	51 (8.9)	223 (5.0)	38 (7.6)	221 (5.2)!	10 (3.5)	204 (7.3)!
Southeast	43 (4.9)	215 (6.2)	39 (5.9)	215 (3.3)	18 (5.1)	205 (2.4)!
Central	55 (5.3)	224 (2.0)	36 (5.8)	217 (3.8)	9 (3.5)	219 (5.8)!
West	52 (6.0)	217 (4.2)	40 (7.4)	214 (3.3)!	8 (2.2)	203 (6.6)!
STATES						
Alabama	32 (3.2)	212 (2.9)	55 (3.8)	207 (2.3)	14 (2.6)	205 (4.4)!
Arizona	48 (3.3)	214 (1.5)	37 (2.8)	207 (1.9)	15 (2.7)	209 (5.6)
Arkansas	24 (2.4)	212 (2.6)	56 (3.4)	213 (1.9)	20 (2.9)	210 (2.4)
California	87 (2.5)	206 (2.4)	12 (2.3)	186 (6.1)	2 (0.9)	*** (***)
Colorado	73 (3.5)	220 (1.4)	22 (3.0)	214 (2.6)	5 (1.6)	217 (4.1)!
Connecticut	62 (3.7)	229 (1.5)	30 (3.6)	217 (3.4)	8 (1.9)	215 (7.5)!
Delaware*	44 (1.3)	217 (1.4)	40 (1.4)	214 (1.1)	16 (0.7)	209 (1.7)
Dist. Columbia	37 (1.3)	191 (1.7)	51 (1.6)	186 (1.4)	12 (0.8)	184 (3.1)
Florida	52 (3.5)	211 (2.0)	42 (3.4)	209 (1.9)	6 (1.1)	195 (5.4)
Georgia	65 (3.9)	215 (2.2)	29 (3.4)	212 (2.5)	6 (1.5)	198 (5.4)!
Hawaii	49 (3.3)	203 (2.5)	41 (3.0)	204 (1.9)	9 (1.7)	203 (4.7)
Idaho	44 (3.5)	222 (1.6)	48 (3.5)	220 (1.3)	8 (1.7)	215 (3.9)!
Indiana	37 (3.3)	225 (2.2)	50 (3.1)	221 (1.4)	13 (2.3)	221 (3.8)
Iowa	52 (3.8)	227 (1.4)	41 (4.0)	226 (1.7)	7 (2.0)	224 (3.1)!
Kentucky	35 (3.8)	213 (2.4)	43 (3.8)	214 (1.8)	22 (3.5)	214 (2.3)
Louisiana	28 (3.1)	206 (3.0)	55 (2.9)	204 (1.8)	17 (2.7)	207 (3.3)
Maine*	62 (4.1)	229 (1.7)	34 (3.8)	227 (1.7)	4 (1.4)	229 (5.8)!
Maryland	66 (3.0)	215 (2.0)	30 (2.9)	209 (2.3)	4 (1.1)	189 (5.4)!
Massachusetts	51 (4.4)	231 (1.9)	42 (4.3)	225 (1.6)	8 (1.7)	222 (3.7)!
Michigan	46 (3.9)	220 (2.1)	45 (3.6)	217 (2.4)	10 (1.9)	211 (6.8)!
Minnesota	41 (3.3)	224 (2.0)	49 (3.4)	222 (2.0)	11 (1.8)	211 (4.7)
Mississippi	28 (3.5)	199 (2.3)	60 (3.7)	201 (2.1)	12 (2.3)	202 (3.6)
Missouri	46 (3.9)	222 (2.6)	40 (3.4)	221 (2.1)	15 (2.5)	221 (2.9)
Nebraska*	49 (4.0)	224 (1.8)	39 (3.8)	222 (1.7)	13 (2.9)	222 (4.2)!
New Hampshire*	59 (3.5)	230 (1.5)	38 (3.2)	230 (2.1)	3 (1.0)	224 (6.8)!
New Jersey*	36 (3.7)	228 (3.1)	46 (4.2)	226 (2.2)	18 (2.6)	215 (3.8)
New Mexico	50 (4.2)	215 (2.1)	43 (4.2)	209 (2.8)	7 (1.7)	203 (8.3)!
New York*	57 (3.8)	218 (2.0)	37 (3.7)	213 (3.6)	6 (1.3)	220 (3.8)!
North Carolina	60 (3.6)	215 (1.7)	35 (3.2)	210 (2.3)	5 (1.4)	200 (4.4)!
North Dakota	24 (3.2)	228 (2.2)	56 (3.7)	227 (1.4)	19 (3.5)	226 (2.9)!
Ohio	49 (4.3)	223 (1.9)	37 (3.4)	214 (2.3)	15 (3.3)	218 (4.7)!
Oklahoma	40 (3.4)	227 (1.5)	51 (3.5)	219 (1.4)	8 (2.1)	222 (3.1)!
Pennsylvania	40 (3.4)	225 (2.7)	43 (3.6)	222 (1.9)	17 (3.5)	214 (3.0)!
Rhode Island	49 (3.6)	222 (2.4)	46 (3.3)	215 (3.1)	5 (1.5)	206 (6.4)!
South Carolina	45 (3.9)	211 (2.0)	43 (3.6)	210 (2.0)	12 (2.2)	213 (4.5)!
Tennessee	28 (2.9)	214 (2.6)	58 (2.9)	213 (1.9)	13 (1.9)	209 (3.7)
Texas	53 (4.0)	220 (2.3)	38 (3.5)	211 (2.9)	10 (2.3)	208 (4.6)!
Utah	47 (3.5)	223 (1.7)	44 (3.4)	220 (1.4)	9 (1.7)	216 (2.7)!
Virginia	58 (3.4)	227 (2.0)	35 (3.2)	217 (2.1)	7 (1.5)	222 (4.9)!
West Virginia	24 (2.7)	217 (3.6)	57 (3.6)	218 (1.9)	19 (2.9)	210 (3.5)
Wisconsin	49 (4.9)	228 (1.7)	40 (4.4)	223 (1.7)	11 (2.2)	220 (4.0)
Wyoming	55 (3.4)	226 (1.6)	38 (3.1)	224 (1.9)	7 (1.5)	218 (4.7)!
TERRITORY						
Guam	39 (0.9)	180 (2.2)	45 (0.9)	185 (2.0)	15 (0.8)	177 (3.5)

*Did not satisfy one or more of the guidelines for school sample participation rates (see Appendix B for details).

The standard errors of the estimated percentages and proficiencies appear in parentheses. It can be said with 95 percent certainty that for each population of interest, the value for the whole population is within plus or minus two stardard errors of the estimate for the sample. In comparing two estimates, one must use the standard error of the difference (see Appendix for details). Percentages may not total 100 percent due to rounding error. ***Sample size insufficient to permit reliable estimate. There were fewer than 62 students. !Interpret with caution - the nature of the sample does not allow accurate determination of the variability of this estimated statistic.

SOURCE: National Assessment of Educational Progress (NAEP), 1992 Reading Assessment.

TABLE 4.5 | Teachers' Reports on the Instructional Emphasis Placed on Integrating Reading and Writing, Grade 4, 1992 Reading Assessment

PUBLIC SCHOOLS	Heavy Emphasis		Moderate Emphasis		Little or No Emphasis	
	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency
NATION	55 (2.7)	220 (2.2)	42 (2.6)	215 (1.7)	3 (0.9)	211 (5.4)!
Northeast	58 (6.1)	222 (5.5)	40 (5.5)	218 (3.4)	2 (1.7)	*** (***)
Southeast	49 (4.9)	214 (5.1)	50 (5.1)	213 (3.7)	1 (0.7)	*** (***)
Central	56 (5.6)	223 (2.8)	42 (5.3)	218 (3.0)	2 (1.0)	*** (***)
West	56 (5.0)	218 (4.5)	38 (4.4)	210 (2.4)	6 (3.3)	213 (6.2)!
STATES						
Alabama	47 (3.2)	205 (2.7)	50 (3.1)	211 (2.4)	2 (1.0)	*** (***)
Arizona	56 (3.1)	210 (1.6)	41 (2.8)	211 (1.8)	3 (0.8)	215 (8.9)!
Arkansas	31 (3.0)	213 (2.1)	55 (3.1)	213 (1.8)	13 (2.6)	205 (2.9)!
California	80 (2.7)	205 (2.7)	19 (2.7)	198 (4.4)	0 (0.4)	*** (***)
Colorado	70 (2.8)	220 (1.3)	29 (2.7)	214 (2.5)	1 (0.6)	*** (***)
Connecticut	72 (3.2)	227 (1.5)	27 (3.1)	219 (3.8)	1 (0.6)	*** (***)
Delaware*	49 (1.4)	220 (1.3)	46 (1.5)	210 (1.0)	5 (0.4)	200 (2.5)
Dist. Columbia	76 (1.3)	189 (1.0)	23 (1.3)	181 (2.2)	1 (0.1)	*** (***)
Florida	65 (3.4)	209 (1.8)	35 (3.4)	210 (1.6)	0 (0.3)	*** (***)
Georgia	68 (2.9)	213 (2.1)	30 (2.9)	212 (2.6)	2 (0.8)	*** (***)
Hawaii	69 (3.4)	205 (2.0)	30 (3.2)	200 (2.5)	2 (0.7)	*** (***)
Idaho	50 (3.5)	221 (1.4)	48 (3.4)	221 (1.3)	2 (0.9)	*** (***)
Indiana	41 (3.9)	224 (2.1)	53 (3.7)	221 (1.6)	6 (1.8)	224 (4.9)!
Iowa	59 (4.0)	226 (1.5)	39 (4.2)	228 (1.5)	2 (1.2)	*** (***)
Kentucky	52 (3.7)	213 (1.8)	46 (3.7)	215 (1.7)	3 (1.3)	208 (8.0)!
Louisiana	45 (3.3)	203 (2.1)	47 (3.6)	206 (1.6)	8 (2.0)	210 (4.5)!
Maine*	61 (3.8)	228 (1.8)	37 (3.8)	229 (1.7)	3 (1.0)	*** (***)
Maryland	78 (2.8)	214 (1.8)	21 (2.7)	208 (3.6)	1 (0.7)	*** (***)
Massachusetts	58 (3.6)	230 (1.4)	36 (2.9)	226 (1.9)	6 (1.6)	219 (3.7)!
Michigan	49 (3.7)	217 (2.3)	48 (3.8)	218 (2.2)	3 (1.0)	*** (***)
Minnesota	45 (4.1)	225 (1.7)	52 (4.1)	219 (2.6)	3 (1.2)	218 (4.3)!
Mississippi	44 (3.2)	200 (2.2)	50 (3.5)	201 (2.0)	6 (1.7)	191 (4.1)!
Missouri	52 (3.5)	221 (2.2)	44 (3.4)	223 (1.6)	4 (1.1)	219 (8.7)!
Nebraska*	56 (3.8)	224 (1.6)	42 (3.7)	220 (2.0)	2 (0.9)	*** (***)
New Hampshire*	63 (3.1)	231 (1.5)	34 (3.1)	228 (1.8)	3 (0.8)	*** (***)
New Jersey*	60 (4.0)	227 (2.2)	37 (4.2)	221 (2.6)	4 (1.3)	221 (7.7)!
New Mexico	66 (3.8)	213 (2.5)	33 (3.9)	211 (2.1)	1 (0.8)	*** (***)
New York*	67 (2.9)	218 (1.7)	31 (2.8)	213 (2.9)	1 (0.7)	*** (***)
North Carolina	62 (3.1)	212 (1.8)	37 (3.1)	214 (1.8)	1 (0.7)	*** (***)
North Dakota	38 (3.8)	227 (2.0)	58 (3.7)	226 (1.4)	4 (1.7)	229 (3.4)!
Ohio	52 (4.1)	221 (1.9)	45 (3.7)	217 (1.8)	3 (1.3)	202 (9.3)!
Oklahoma	44 (3.7)	223 (1.6)	52 (3.7)	222 (1.4)	4 (1.2)	222 (5.7)!
Pennsylvania	50 (3.9)	221 (2.4)	46 (3.7)	222 (1.8)	4 (1.2)	217 (6.5)!
Rhode Island	54 (3.3)	221 (2.1)	44 (3.3)	216 (3.3)	2 (0.7)	*** (***)
South Carolina	55 (3.7)	210 (1.9)	42 (3.6)	210 (2.3)	3 (1.1)	221 (7.9)!
Tennessee	47 (2.9)	214 (2.4)	47 (2.7)	212 (2.1)	6 (1.4)	205 (3.5)!
Texas	58 (3.3)	214 (2.6)	38 (3.1)	217 (2.4)	5 (1.6)	215 (4.7)!
Utah	45 (3.0)	224 (1.8)	51 (3.0)	220 (1.5)	4 (1.2)	217 (4.0)!
Virginia	72 (3.0)	225 (1.9)	27 (2.8)	218 (2.0)	1 (0.8)	*** (***)
West Virginia	36 (3.5)	221 (2.0)	59 (3.5)	215 (1.7)	4 (1.2)	197 (8.4)!
Wisconsin	54 (3.2)	225 (1.6)	42 (3.3)	225 (1.5)	4 (1.5)	219 (7.2)!
Wyoming	50 (3.7)	226 (1.8)	46 (3.7)	224 (1.6)	4 (1.2)	212 (6.1)!
TERRITORY						
Guam	51 (1.1)	181 (1.9)	47 (1.0)	182 (1.6)	2 (0.4)	*** (***)

*Did not satisfy one or more of the guidelines for school sample participation rates (see Appendix B for details).

The standard errors of the estimated percentages and proficiencies appear in parentheses. It can be said with 95 percent certainty that for each population of interest, the value for the whole population is within plus or minus two standard errors of the estimate for the sample. In comparing two estimates, one must use the standard error of the difference (see Appendix for details). Percentages may not total 100 percent due to rounding error. When the proportion of students is either 0 percent or 100 percent, the standard error is inestimable. However, percentages 99.5 percent and greater were rounded to 100 percent and percentages 0.5 percent and less were rounded to 0 percent. ***Sample size insufficient to permit reliable estimate. There were fewer than 62 students. !Interpret with caution - the nature of the sample does not allow accurate determination of the variability of this estimated statistic.

SOURCE: National Assessment of Educational Progress (NAEP), 1992 Reading Assessment.

TABLE 4.6 | Teachers' Reports on the Instructional Emphasis Placed on Whole Language, Grade 4, 1992 Reading Assessment

PUBLIC SCHOOLS	**Heavy Emphasis**		**Moderate Emphasis**		**Little or No Emphasis**	
	Percentage of Students	**Average Proficiency**	**Percentage of Students**	**Average Proficiency**	**Percentage of Students**	**Average Proficiency**
NATION	42 (3.0)	219 (2.6)	41 (2.7)	217 (1.4)	18 (1.8)	215 (2.0)
Northeast	50 (5.0)	227 (5.9)	36 (3.6)	217 (3.8)	13 (3.2)	207 (5.8)!
Southeast	39 (5.7)	211 (6.0)	37 (4.8)	214 (2.7)	24 (4.3)	216 (3.0)!
Central	34 (7.2)	225 (4.1)!	47 (6.9)	218 (2.4)	19 (3.7)	221 (4.0)
West	45 (3.9)	215 (4.7)	41 (4.2)	217 (3.4)	14 (2.1)	211 (4.2)
STATES						
Alabama	30 (2.8)	205 (3.8)	51 (3.3)	210 (2.2)	19 (2.3)	211 (4.2)
Arizona	30 (2.7)	207 (2.8)	44 (2.7)	212 (1.6)	26 (2.5)	211 (3.4)
Arkansas	21 (3.3)	207 (3.2)	50 (3.8)	212 (2.1)	29 (3.3)	215 (1.9)
California	69 (3.0)	205 (2.7)	28 (3.1)	200 (4.3)	4 (1.1)	203 (7.7)!
Colorado	57 (3.2)	220 (1.4)	35 (2.8)	215 (2.1)	8 (1.8)	222 (4.2)!
Connecticut	48 (3.8)	226 (2.1)	41 (3.5)	224 (2.3)	11 (2.4)	220 (4.7)!
Delaware*	33 (1.0)	218 (1.8)	48 (1.2)	213 (1.1)	19 (0.7)	213 (1.3)
Dist. Columbia	42 (1.5)	188 (1.7)	47 (1.5)	186 (1.5)	11 (0.7)	190 (3.2)
Florida	51 (4.1)	208 (2.2)	40 (3.7)	210 (1.8)	9 (1.5)	214 (3.3)
Georgia	61 (3.3)	214 (2.2)	30 (3.0)	215 (2.2)	9 (1.6)	201 (4.1)
Hawaii	38 (3.3)	200 (2.8)	44 (3.2)	206 (1.9)	18 (2.2)	206 (3.5)
Idaho	35 (3.5)	222 (1.4)	46 (3.3)	221 (1.5)	19 (2.8)	218 (2.3)
Indiana	33 (3.7)	222 (2.3)	50 (3.8)	224 (1.6)	18 (2.4)	221 (2.7)
Iowa	47 (4.1)	228 (1.5)	40 (3.7)	226 (1.7)	13 (2.3)	223 (2.6)
Kentucky	28 (3.3)	209 (2.2)	49 (3.6)	216 (2.2)	23 (3.2)	214 (1.6)
Louisiana	34 (3.4)	198 (2.5)	36 (3.1)	207 (2.1)	30 (3.5)	211 (2.1)
Maine*	35 (4.1)	228 (2.4)	46 (4.1)	229 (1.6)	19 (3.2)	228 (2.8)
Maryland	59 (3.2)	214 (2.1)	32 (2.8)	211 (3.0)	9 (1.9)	209 (4.0)!
Massachusetts	33 (3.8)	229 (2.5)	48 (4.1)	229 (1.7)	19 (2.7)	221 (2.4)
Michigan	41 (3.4)	219 (3.1)	44 (3.3)	217 (1.7)	15 (2.3)	214 (3.5)
Minnesota	28 (3.2)	224 (2.1)	47 (3.8)	224 (2.0)	26 (3.4)	214 (3.3)
Mississippi	31 (3.6)	199 (2.5)	44 (3.3)	198 (2.4)	25 (3.2)	205 (2.5)
Missouri	32 (3.3)	219 (2.8)	48 (3.2)	223 (1.5)	20 (2.9)	224 (2.4)
Nebraska*	26 (3.8)	222 (2.5)	50 (4.9)	222 (1.5)	23 (4.2)	225 (2.8)
New Hampshire*	37 (3.5)	231 (2.1)	47 (3.2)	228 (1.6)	16 (2.3)	231 (3.2)
New Jersey*	43 (3.6)	225 (2.4)	39 (3.4)	224 (2.5)	18 (3.0)	225 (3.8)
New Mexico	35 (3.7)	214 (3.0)	45 (4.0)	212 (2.7)	21 (3.5)	206 (3.4)
New York*	49 (3.1)	214 (2.0)	40 (3.1)	217 (2.9)	11 (1.9)	220 (5.7)
North Carolina	49 (3.5)	212 (2.3)	44 (3.2)	213 (1.7)	8 (1.4)	217 (3.6)
North Dakota	19 (3.1)	225 (2.4)	45 (4.7)	225 (1.9)	36 (4.6)	231 (2.0)
Ohio	31 (4.2)	219 (2.4)	48 (3.9)	218 (2.1)	21 (3.1)	221 (3.2)
Oklahoma	24 (3.0)	223 (2.0)	58 (3.2)	222 (1.5)	18 (2.5)	220 (1.6)
Pennsylvania	34 (3.4)	223 (2.5)	42 (3.4)	220 (2.0)	23 (3.6)	222 (2.9)
Rhode Island	30 (3.3)	222 (2.8)	48 (3.4)	217 (2.8)	23 (2.8)	217 (3.8)
South Carolina	42 (3.9)	209 (2.1)	41 (3.3)	213 (2.3)	17 (2.7)	210 (3.6)
Tennessee	27 (3.0)	209 (2.9)	49 (3.7)	215 (2.0)	24 (2.6)	211 (2.3)
Texas	42 (3.0)	212 (2.8)	41 (3.5)	217 (2.5)	17 (2.6)	217 (2.6)
Utah	34 (2.9)	224 (2.2)	52 (2.7)	221 (1.4)	14 (2.2)	215 (2.4)
Virginia	48 (4.2)	225 (2.2)	41 (3.5)	221 (2.2)	12 (2.2)	221 (3.3)
West Virginia	26 (3.5)	220 (2.7)	50 (4.1)	214 (2.1)	24 (3.2)	216 (2.3)
Wisconsin	35 (3.6)	225 (1.9)	50 (3.7)	224 (1.3)	15 (2.8)	228 (3.5)
Wyoming	37 (3.1)	226 (1.9)	47 (2.9)	224 (1.6)	16 (3.1)	225 (2.4)
TERRITORY						
Guam	40 (0.9)	179 (1.9)	42 (1.1)	183 (2.1)	18 (0.9)	186 (2.9)

*Did not satisfy one or more of the guidelines for school sample participation rates (see Appendix B for details).

The standard errors of the estimated percentages and proficiencies appear in parentheses. It can be said with 95 percent certainty that for each population of interest, the value for the whole population is within plus or minus two standard errors of the estimate for the sample. In comparing two estimates, one must use the standard error of the difference (see Appendix for details). Percentages may not total 100 percent due to rounding error. !Interpret with caution - the nature of the sample does not allow accurate determination of the variability of this estimated statistic.

SOURCE: National Assessment of Educational Progress (NAEP), 1992 Reading Assessment.

TABLE 4.7 | Teachers' Reports on the Instructional Emphasis Placed on Phonics, Grade 4, 1992 Reading Assessment

PUBLIC SCHOOLS	Heavy Emphasis		Moderate Emphasis		Little or No Emphasis	
	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency
NATION	11 (1.4)	206 (2.9)	48 (3.2)	217 (1.3)	40 (2.4)	221 (2.4)
Northeast	9 (2.6)	204 (7.4)!	44 (6.6)	216 (2.8)	47 (5.6)	227 (6.1)
Southeast	14 (2.0)	207 (4.6)	53 (4.4)	214 (3.2)	33 (3.9)	215 (5.8)
Central	8 (3.5)	207 (8.4)!	54 (6.7)	222 (2.1)	38 (3.8)	223 (3.6)
West	14 (3.0)	204 (5.7)!	40 (7.5)	211 (3.5)!	45 (6.5)	220 (4.9)
STATES						
Alabama	18 (2.3)	199 (3.9)	60 (3.0)	211 (1.8)	22 (2.8)	209 (3.5)
Arizona	8 (1.3)	204 (4.4)	52 (3.2)	209 (1.8)	39 (3.3)	214 (1.7)
Arkansas	15 (2.7)	204 (4.3)	62 (3.2)	212 (1.5)	22 (2.8)	218 (2.0)
California	8 (1.5)	196 (6.6)	40 (2.7)	203 (3.2)	52 (3.2)	205 (3.0)
Colorado	8 (1.8)	213 (3.0)!	54 (3.3)	218 (1.5)	38 (3.0)	220 (2.0)
Connecticut	6 (1.2)	205 (8.0)!	49 (3.1)	220 (2.1)	45 (3.2)	232 (1.7)
Delaware*	18 (0.8)	204 (1.6)	52 (1.1)	214 (0.8)	30 (1.0)	222 (1.6)
Dist. Columbia	40 (1.5)	182 (1.6)	54 (1.5)	189 (1.6)	5 (0.6)	213 (5.6)
Florida	12 (1.7)	197 (4.6)	59 (2.5)	210 (1.6)	29 (2.3)	214 (1.9)
Georgia	19 (2.7)	204 (4.3)	51 (2.8)	214 (2.0)	30 (3.4)	216 (3.0)
Hawaii	9 (1.5)	194 (5.1)	61 (3.1)	204 (2.0)	30 (2.9)	205 (2.8)
Idaho	11 (2.3)	216 (2.5)!	51 (3.4)	220 (1.1)	38 (3.4)	223 (1.7)
Indiana	6 (1.7)	204 (4.4)!	58 (3.9)	223 (1.6)	36 (3.4)	225 (2.1)
Iowa	8 (2.0)	218 (3.3)!	49 (3.2)	228 (1.5)	43 (3.2)	226 (1.6)
Kentucky	14 (2.4)	208 (2.9)	66 (3.5)	214 (1.6)	20 (3.3)	215 (2.9)
Louisiana	22 (2.9)	198 (2.2)	54 (3.0)	207 (1.8)	23 (3.1)	206 (2.4)
Maine*	11 (2.4)	225 (3.4)!	50 (4.0)	228 (1.7)	39 (3.9)	230 (1.8)
Maryland	7 (1.6)	191 (7.3)!	45 (3.3)	207 (2.3)	48 (3.4)	220 (1.8)
Massachusetts	14 (2.4)	215 (2.5)	49 (3.2)	227 (1.8)	36 (3.4)	234 (1.8)
Michigan	9 (1.8)	204 (4.6)	49 (3.5)	215 (2.2)	42 (3.1)	223 (2.0)
Minnesota	10 (2.4)	213 (3.7)!	50 (3.1)	222 (1.8)	39 (3.2)	223 (2.5)
Mississippi	22 (3.0)	195 (3.6)	65 (3.0)	201 (1.6)	13 (2.2)	203 (4.0)
Missouri	13 (2.3)	212 (4.2)	54 (3.5)	220 (1.7)	33 (3.6)	228 (2.4)
Nebraska*	17 (3.3)	224 (3.1)!	50 (4.0)	223 (1.7)	33 (3.5)	221 (2.4)
New Hampshire*	10 (1.7)	221 (3.1)	56 (3.2)	230 (1.6)	34 (3.5)	232 (2.0)
New Jersey*	12 (2.0)	210 (3.9)	58 (3.4)	222 (1.6)	30 (3.0)	236 (2.9)
New Mexico	18 (2.9)	207 (3.8)	58 (4.2)	214 (2.2)	24 (3.7)	211 (3.5)
New York*	16 (2.5)	205 (5.6)	49 (3.6)	214 (2.2)	35 (3.7)	224 (2.5)
North Carolina	15 (2.6)	210 (3.2)	52 (3.2)	209 (1.7)	33 (3.3)	220 (2.1)
North Dakota	17 (3.2)	229 (2.9)	55 (4.8)	225 (1.6)	29 (3.8)	228 (2.3)
Ohio	12 (2.4)	215 (3.9)	55 (3.8)	218 (1.9)	33 (3.9)	221 (2.7)
Oklahoma	16 (2.3)	217 (2.9)	57 (3.7)	221 (1.1)	27 (3.5)	228 (2.1)
Pennsylvania	13 (2.0)	205 (3.5)	49 (3.9)	221 (1.9)	39 (4.1)	228 (2.0)
Rhode Island	9 (1.9)	209 (5.1)!	55 (3.4)	215 (2.9)	36 (3.2)	226 (2.5)
South Carolina	15 (2.3)	204 (3.0)	55 (2.9)	210 (1.8)	30 (3.0)	215 (2.3)
Tennessee	16 (2.3)	202 (3.3)	62 (2.8)	212 (1.9)	21 (2.6)	222 (2.4)
Texas	14 (1.7)	198 (3.7)	52 (2.9)	215 (2.3)	34 (3.3)	222 (2.4)
Utah	13 (2.1)	217 (3.1)	50 (3.2)	221 (1.6)	37 (3.3)	223 (1.9)
Virginia	9 (1.6)	209 (3.9)	49 (2.8)	224 (1.8)	42 (3.4)	225 (2.1)
West Virginia	16 (2.5)	210 (3.9)	64 (3.4)	218 (1.4)	20 (2.9)	216 (3.0)
Wisconsin	6 (1.6)	217 (4.7)!	51 (3.8)	226 (1.6)	43 (4.1)	226 (1.5)
Wyoming	8 (1.8)	221 (3.5)!	54 (3.2)	224 (1.4)	39 (3.3)	227 (2.3)
TERRITORY						
Guam	29 (1.0)	179 (1.8)	56 (1.0)	181 (1.8)	15 (0.6)	189 (3.3)

*Did not satisfy one or more of the guidelines for school sample participation rates (see Appendix B for details).

The standard errors of the estimated percentages and proficiencies appear in parentheses. It can be said with 95 percent certainty that for each population of interest, the value for the whole population is within plus or minus two standard errors of the estimate for the sample. In comparing two estimates, one must use the standard error of the difference (see Appendix for details). Percentages may not total 100 percent due to rounding error. !Interpret with caution - the nature of the sample does not allow accurate determination of the variability of this estimated statistic.

SOURCE: National Assessment of Educational Progress (NAEP), 1992 Reading Assessment.

Instructional Materials

The type of materials that forms the core of a reading instructional program may or may not be the choice of the individual teacher. Two major types of reading materials have received the most attention in the discussion of quality reading instruction -- basal readers and trade books. Although wide variations in content and format may exist within each type, there are clear differences that distinguish them from each other.

Basal readers have traditionally been the major component of reading instruction in elementary and middle school reading programs. These publications are developed for the specific purpose of reading instruction and typically include grade-appropriate reading passages and exercises. Some critics of basal readers argue that reading is unnaturally controlled or fragmented when students are taught with basal readers, and teachers become less involved in the process when they follow sequenced lessons in basal programs.[27] Other educators suggest that basals are effective tools in reading instruction when used wisely and selectively by teachers.[28] Still other educators have documented recent changes in the nature and content of many basal programs that include authentic literature and articles and depend less on isolated skill exercises.[29]

Trade books, as a primary source of instructional materials, have received increased attention in recent years. It has been suggested that using trade books, or books that are not published specifically for reading instruction, exposes students to more authentic and wider varieties of literacy experiences.[30]

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[27] P. Afflerbach, and B. Walker, "Main Idea Instruction: An Analysis of Three Basal Reader Series," *Reading Research and Instruction*, 32(1), 11-28, 1992.

K. F. Thomas, M. A. Barksdale-Ladd, and R. A. Jones, "Basals, Teacher Power, and Empowerment: A Conceptual Framework" in J. Zutell, and S. McCormick (Eds), *Learner Factors/Teacher Factors: Issues in Literacy Research and Instruction, Fortieth Yearbook of the National Reading Conference* (Chicago, IL: National Reading Conference, 1991).

[28] R. Barr, and M. W. Sadow, "Influence of Basal Programs on Fourth-Grade Reading Instruction," *Reading Research Quarterly*, 24(1), 44-71, 1989.

[29] K. S. Goodman, P. Shannon, Y. S. Freeman, and S. Murphy, *Report Card on Basal Readers* (Katonah, NY: Richard C. Owen, 1988.)

[30] D. Taverner, *Reading Within and Beyond the Classroom* (Philadelphia, PA: Open University Press, 1990).

Teachers of fourth-grade students in the reading assessment were asked about the type of materials that form the core of their reading program. TABLE 4.8 summarizes their responses.

- The largest proportion of students (49 percent) was being taught by teachers who reported that a combination of both basal and trade books forms the core of their reading programs.
- More than one-third (36 percent) of the students had teachers indicating that they relied solely on basal materials for their reading instruction, while only 12 percent had teachers who said the same about trade books.
- Across the different types of materials used for reading instruction, no significant differences in overall reading proficiency were observed.

TABLE 4.9 presents corresponding results for individual states. It would appear for the states as well as for the nation that dependence upon basals primarily or in combination with trade books is more prevalent than using only trade books in reading instruction.

TABLE 4.8 **Teachers' Reports on Which Type of Material Forms the Core of Their Reading Programs, Grade 4, 1992 Reading Assessment**

	Primarily Basal		Primarily Trade Books		Both Basal and Trade Books		Other	
	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency
Grade 4	36(2.4)	217(1.9)	12(2.1)	224(4.3)	49(3.4)	219(1.4)	3(1.0)	209(6.5)

The standard errors of the estimated percentages and proficiencies appear in parentheses. It can be said with 95 percent certainty that for each population of interest, the value for the whole population is within plus or minus two standard errors of the estimate for the sample. In comparing two estimates, one must use the standard error of the difference (see Appendix for details). Percentages may not total 100 percent due to rounding error.

SOURCE: National Assessment of Educational Progress (NAEP), 1992 Reading Assessment.

TABLE 4.9

Teachers' Reports on Which Type of Materials Forms the Core of Their Reading Programs, Grade 4, 1992 Reading Assessment

PUBLIC SCHOOLS	Primarily Basal		Primarily Trade Books		Both Basal and Trade Books		Other	
	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency
NATION	33 (2.6)	214 (2.2)	13 (2.3)	224 (4.5)	51 (3.6)	218 (1.5)	3 (1.1)	209 (6.5)!
Northeast	28 (6.5)	214 (5.6)!	19 (5.6)	236 (7.4)!	50 (8.6)	217 (4.1)	3 (2.4)	*** (***)
Southeast	45 (4.8)	214 (3.1)	7 (4.3)	217(27.0)!	44 (6.7)	212 (2.7)!	5 (3.4)	*** (***)
Central	30 (5.0)	218 (5.0)	15 (4.9)	227 (2.9)!	52 (7.5)	222 (2.2)	2 (0.6)	*** (***)
West	28 (4.5)	210 (4.0)	13 (2.9)	205(11.6)!	56 (4.7)	220 (2.8)	3 (1.8)	*** (***)
STATES								
Alabama	58 (3.6)	210 (2.4)	2 (1.0)	*** (***)	38 (3.5)	207 (2.5)	1 (0.7)	*** (***)
Arizona	28 (3.3)	212 (2.9)	13 (2.6)	212 (4.2)!	54 (2.9)	212 (1.6)	5 (1.3)	199 (7.0)!
Arkansas	63 (3.7)	212 (1.6)	0 (0.1)	*** (***)	35 (3.6)	212 (2.3)	2 (1.1)	*** (***)
California	11 (1.9)	197 (5.5)	15 (2.6)	209 (4.9)	66 (3.5)	202 (2.6)	7 (2.2)	204(12.3)!
Colorado	11 (1.8)	216 (3.5)	37 (3.0)	220 (2.3)	45 (3.5)	217 (1.7)	8 (1.8)	220 (3.3)!
Connecticut	19 (3.2)	216 (4.5)	17 (3.3)	231 (3.0)	61 (4.0)	226 (2.0)	2 (1.0)	*** (***)
Delaware*	44 (0.9)	213 (0.9)	4 (0.3)	215 (4.6)	46 (0.9)	217 (1.3)	7 (0.4)	214 (2.9)
Dist. Columbia	36 (1.5)	183 (1.6)	3 (0.1)	*** (***)	57 (1.5)	187 (1.2)	4 (0.4)	198 (5.0)
Florida	34 (3.4)	208 (1.8)	5 (1.5)	215 (3.9)!	54 (3.2)	209 (1.9)	7 (1.6)	219 (4.3)!
Georgia	29 (3.3)	211 (2.6)	7 (1.7)	218 (8.0)!	59 (3.5)	214 (2.4)	5 (1.3)	207 (8.6)!
Hawaii	38 (3.7)	204 (2.8)	11 (2.3)	193 (5.1)!	45 (4.1)	205 (2.6)	7 (2.0)	212 (5.4)!
Idaho	31 (3.5)	219 (1.6)	9 (2.7)	223 (2.7)!	58 (3.6)	222 (1.3)	2 (1.2)	*** (***)
Indiana	48 (3.8)	222 (1.7)	7 (1.4)	239 (3.8)!	44 (3.5)	221 (1.7)	1 (0.4)	*** (***)
Iowa	28 (3.5)	225 (1.9)	16 (3.2)	228 (2.8)!	55 (4.2)	228 (1.4)	1 (0.4)	*** (***)
Kentucky	38 (4.4)	213 (1.6)	15 (3.3)	213 (4.9)!	44 (4.2)	216 (2.0)	3 (0.9)	*** (***)
Louisiana	67 (3.8)	204 (1.6)	2 (0.9)	*** (***)	31 (3.3)	206 (2.4)	1 (0.5)	*** (***)
Maine*	11 (2.7)	225 (3.3)!	34 (4.5)	232 (1.8)	54 (4.4)	227 (1.6)	1 (0.3)	*** (***)
Maryland	23 (3.1)	197 (3.7)	25 (3.0)	224 (2.8)	48 (3.5)	213 (2.3)	3 (1.1)	221(12.6)!
Massachusetts	33 (3.3)	222 (1.7)	16 (3.3)	233 (3.4)!	49 (3.7)	230 (1.9)	3 (1.1)	*** (***)
Michigan	37 (3.8)	214 (2.2)	8 (1.5)	228 (3.5)	51 (3.6)	218 (2.3)	4 (1.7)	221 (6.3)!
Minnesota	40 (3.7)	220 (2.4)	10 (2.9)	224 (5.2)!	50 (4.3)	223 (1.9)	0 (0.2)	*** (***)
Mississippi	51 (3.5)	204 (1.9)	1 (0.6)	*** (***)	46 (3.6)	198 (2.3)	1 (0.6)	*** (***)
Missouri	40 (3.9)	221 (2.2)	11 (2.7)	226 (3.6)!	43 (4.2)	222 (2.2)	6 (1.6)	216 (7.5)!
Nebraska*	41 (4.1)	222 (2.0)	8 (2.3)	228 (3.3)!	49 (4.0)	222 (1.7)	2 (1.2)	*** (***)
New Hampshire*	13 (2.9)	231 (3.8)!	26 (3.8)	231 (2.5)	61 (4.4)	229 (1.6)	1 (0.4)	*** (***)
New Jersey*	48 (4.1)	219 (2.3)	8 (2.5)	238 (5.9)!	40 (4.6)	228 (3.2)	4 (1.3)	227 (7.8)!
New Mexico	29 (3.5)	210 (2.9)	7 (1.7)	213 (3.4)!	57 (4.0)	212 (2.1)	7 (2.2)	211 (5.5)!
New York*	20 (2.8)	212 (2.8)	19 (3.5)	223 (2.8)	54 (3.9)	217 (2.3)	6 (1.7)	216 (6.3)!
North Carolina	25 (3.2)	210 (2.2)	11 (2.2)	223 (5.1)!	60 (3.3)	212 (1.6)	4 (1.1)	208 (6.6)!
North Dakota	62 (4.2)	225 (1.6)	1 (0.9)	*** (***)	36 (4.0)	230 (1.7)	1 (0.4)	*** (***)
Ohio	31 (4.4)	217 (2.8)	16 (3.5)	227 (3.5)!	52 (3.5)	217 (1.8)	0 (0.3)	*** (***)
Oklahoma	39 (3.6)	221 (1.6)	2 (0.8)	*** (***)	56 (3.5)	223 (1.5)	2 (1.1)	*** (***)
Pennsylvania	52 (4.0)	220 (1.9)	5 (1.4)	227 (5.9)!	40 (4.0)	225 (2.6)	3 (0.9)	200 (8.5)!
Rhode Island	23 (3.1)	205 (5.1)	8 (2.1)	228 (5.3)!	67 (4.0)	222 (1.8)	2 (1.1)	*** (***)
South Carolina	43 (3.9)	211 (2.3)	5 (1.6)	217 (4.5)!	50 (3.5)	210 (2.2)	2 (0.9)	*** (***)
Tennessee	53 (3.0)	212 (2.0)	5 (1.8)	208 (8.2)!	40 (2.7)	214 (2.2)	1 (0.5)	*** (***)
Texas	29 (3.5)	209 (3.0)	9 (1.8)	221 (4.3)!	59 (3.5)	219 (2.2)	3 (0.8)	198 (9.3)!
Utah	32 (3.2)	218 (2.1)	8 (2.3)	224 (3.7)!	57 (3.8)	223 (1.5)	3 (1.1)	*** (***)
Virginia	34 (3.5)	219 (1.8)	13 (2.8)	236 (3.4)!	50 (3.5)	223 (2.1)	2 (0.8)	*** (***)
West Virginia	73 (3.0)	216 (1.8)	1 (0.7)	*** (***)	25 (3.0)	217 (2.8)	1 (0.5)	*** (***)
Wisconsin	25 (3.9)	226 (2.3)	13 (2.5)	228 (3.0)!	61 (4.2)	224 (1.2)	1 (0.4)	*** (***)
Wyoming	26 (3.3)	223 (2.2)	12 (2.9)	225 (3.2)!	59 (3.8)	226 (1.5)	3 (1.3)	*** (***)
TERRITORY								
Guam	44 (0.9)	183 (1.7)	5 (0.4)	170 (5.5)	48 (0.9)	182 (1.8)	4 (0.4)	181 (6.2)

*Did not satisfy one or more of the guidelines for school sample participation rates (see Appendix B for details).

The standard errors of the estimated percentages and proficiencies appear in parentheses. It can be said with 95 percent certainty that for each population of interest, the value for the whole population is within plus or minus two standard errors of the estimate for the sample. In comparing two estimates, one must use the standard error of the difference (see Appendix for details). Percentages may not total 100 percent due to rounding error. When the proportion of students is either 0 percent or 100 percent, the standard error is inestimable. However, percentages 99.5 percent and greater were rounded to 100 percent and percentages 0.5 percent and less were rounded to 0 percent. ***Sample size insufficient to permit reliable estimate. There were fewer than 62 students. !Interpret with caution - the nature of the sample does not allow accurate determination of the variability of this estimated statistic.

SOURCE: National Assessment of Educational Progress (NAEP), 1992 Reading Assessment.

Summary

The reading instructional context portrayed by the NAEP data indicates a combination of traditional and innovative approaches are being used to teach reading in this country. While most fourth-grade students (82 percent) were receiving 60 minutes or less of reading instruction on a typical day, they appeared to be receiving an exposure to a variety of instructional approaches. About half the fourth graders (from 40 to 54 percent) were receiving heavy instructional emphasis in each of three different approaches to overall instruction -- literature-based reading, integration of reading and writing, and whole language.

The fact that 98 percent of students in the assessment had teachers giving at least moderate emphasis to the integration of reading and writing suggests an overwhelming consensus among teachers on the usefulness and appropriateness of this approach for fourth-grade students. It would also appear that a majority of students are being taught by teachers who have embraced aspects of whole language and literature-based reading as a part of their reading instruction. Teachers reported that these methods were being given at least moderate emphasis, with the approaches reaching 82 percent and 88 percent of the fourth graders, respectively. A higher overall reading proficiency was evidenced by students with teachers reporting a heavy emphasis on literature-based reading instruction than by students with teachers reporting little or no emphasis on this type of instruction.

Phonics continued to be an element of reading instruction for fourth graders, but for more than one-third (39 percent) of them, phonics played either a very small part or no part in their instruction. Teachers reported that only 11 percent of the students were receiving heavy instructional emphasis in phonics, and they had lower average proficiency than students receiving less instructional emphasis in this approach. Because this approach is more often used with young readers, the small percentage of fourth graders receiving heavy emphasis in phonics may be those needing special attention.

Finally, while basal readers continue to play a significant role in the reading instruction of fourth-grade students, 61 percent of students were being taught by teachers who reported using trade books primarily or at least in conjunction with basal readers. Thus, it would appear that a majority of fourth-grade students are being exposed to some degree of variety in the reading materials used in their classrooms.

Chapter Five

Instructional Activities

As teachers guide the reading development of their students, they may engage students in a variety of activities as a part of direct instruction or as a follow-up to instruction. These activities may include such exercises as completing drill sheets for practicing specific skills, writing a personal reaction to a reading experience, or simply reading books they have chosen. The quality of these activities and how they are incorporated into the overall instructional program clearly plays a role in how early readers develop.

There continues to be a profound interest in the activities that are used by teachers to develop the literacy abilities of their students. Clearly, specific activities may differ in the nature of the skill being supported or the level of engagement of students. Miller, Adkins, and Hooper (1993) found that certain literacy assignments caused students to become bored and were, perhaps, ineffective as instructional activities.[31] An interesting finding from their study was that when students were asked to complete "... a more complex literacy assignment (i.e., those that required the writing of single or multiple sentences or paragraphs), students said they were challenged and enjoyed learning for learning's sake."

Many studies have documented the evolution of a skills-based reading curriculum in this country that has traditionally utilized sequentially presented skill exercises, typically in isolation of other skills or more advanced abilities.[32] However, many current educators and theorists are supportive of more integrative approaches to reading instruction that reconceptualize reading as strategic, interactive, and complex.[33] Along with this current view of reading, many educators propose that the activities involved in reading instruction should provide multiple and varied opportunities for reading and responding to reading.[34]

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[31] S. D. Miller, T. Adkins, and M. L. Hooper, "Why Teachers Select Specific Literacy Assignments and Students' Reactions to Them," *Journal of Reading Behavior*. 25(1), 69-93, 1993.

[32] L. B. Resnick, "Instructional Psychology," in T. Husen and T.N. Postlethwaite, *International Encyclopedia of Education: Research and Studies*, Pergamon, 1985.

N. B. Smith, *American Reading Instruction* (Newark, DE: International Reading Association, 1965).

[33] J. A. Dole, G. G. Duffy, L. R. Roehler, and P. D. Pearson, "Moving From the Old To the New: Research on Reading Comprehension Instruction," *Review of Educational Research*, 61(2), 239-264, 1991.

Teachers of fourth graders in the 1992 NAEP reading assessment were asked about the specific activities they employed as a part of their ongoing reading instruction. Their responses and the performance of their students are summarized in this chapter.

In addition, students were asked many of the same questions about their experiences in the classroom. In some cases, the responses from students and teachers portray differing perceptions of school activities.

Workbooks, Worksheets, and Writing in Response to Reading

Workbook and worksheet activities are typically an integral part of basal reading programs. They may also represent supplemental materials used by teachers to reinforce specific skills or abilities. The nature of the tasks represented by these materials can vary widely. Traditionally, these exercises have tended to focus on decontextualized skill development -- often not involving reading or writing beyond simple fill-in-the-blank tasks.[35] More recently, many commercially-prepared and teacher-made worksheets are including extended writing and more integrative activities. Whatever the content of the activity, it is clear that the manner in which they are used and the purposes set for students' completion of them will have an effect on their instructional benefit.[36]

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[34] E. H. Burnett, and P. C. Berg, "Reading Instruction in the Schools: Improving Students' Critical Thinking Skills," *The Clearing House, 61*. 208-210, 1988.

P. Winograd, and M. Greenlee, "Students Need a Balanced Reading Program," *Educational Leadership*, 16-21, 1986.

C. W. Bonds and D. Sida, "A Reading Paradigm to Meet the Needs of All Students," *Reading Improvement, 30*(1), 2-8, 1993.

[35] B. Sharp, "Why Aren't You Using the Phonics Workbook? (When the Principal Asks)," *The Reading Teacher, 42*(4), 326-327, 1989.

J. Osborn, "The Ubiquitous Workbook: Cause for Concern?" *American Educator: The Professional Journal of the American Federation of Teachers, 10*(2), 24-29, 1986.

J. Osborn, "The Purposes, Uses, and Contents of Workbooks, and Some Guidelines for Publishers," in *Learning to Read in American Schools: Basal Readers and Content Texts* (Hilldale: Lawrence Erlbaum, 1983).

[36] W. H. Rupley, and T. R. Blair, "Primary Teachers' Assignment and Supervision of Students' Reading Seatwork," *Reading Psychology, 7*, 279-288, 1986.

Writing in response to reading is an instructional activity that has received much support and emphasis in recent reform efforts.[37] It has been suggested that reading and writing share many of the same cognitive characteristics and are processes that naturally complement and enhance each other.[38] Written responses to reading may take many forms, from extensive summary writing of an informative article to a personal response entry in a reading journal. Part of the reason that this type of activity has been overwhelmingly supported by educators is the belief that asking students to respond to reading with a written reaction or interpretation more closely resembles real-world types of reading responses.[39]

TABLE 5.1 summarizes teachers' reports on the frequency with which they use workbook or worksheet activities and writing assignments with their fourth-grade students.

- One-third of the fourth graders had teachers who reported almost daily use of workbooks or worksheets. For all but one-fifth of the students, workbooks or worksheets appeared to be a regular part of reading instruction. That is, they use these materials at least once a week or almost every day.
- More than one-fourth (27 percent) of the students were taught by teachers who said they engaged their students in writing about what they read less than weekly.
- No significant differences were observed in students' reading proficiency based on the frequency of either activity as reported by their teachers.

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[37] L. Lewin, "Integrating Reading and Writing Strategies Using an Alternating Teacher-Led/Student-Selected Instructional Pattern," *The Reading Teacher*, 45(8), 586-591, 1992.

R. Farr, et al., "Writing in Response to Reading," *Educational Leadership*, 66-69, 1990.

[38] I. Reid, "Reading as Framing, Writing as Reframing," in M. Hayhoe, and S. Parker (Eds.), *Reading and Response*. (Philadelphia, PA: Open University Press, 1990).

M.M. Clay, *The Early Detection of Reading Difficulties* (3rd ed.), (Portsmouth, NH: Heinman, 1985).

[39] W. McGinley, and D. Madigan, "The Research 'Story': A Form for Integrating Reading, Writing, and Learning," *Language Arts*, 67, 474-483, 1990.

A slightly different picture of how workbooks, worksheets, and writing are used in fourth-grade classrooms is provided by the responses of students to the same questions about these activities. The students' reports of these activities at all three grade levels are summarized in TABLE 5.2.

- At grade 4, 51 percent of students reported that they use workbooks or worksheets almost daily as a part of reading instruction. Consistent with teachers' reports, only one-fifth of the fourth graders said they worked in workbooks or on worksheets less than weekly.

- Based on responses from students at grades 8 and 12, dependence on workbooks and worksheets decreased as students advanced through the grade levels. As compared to 51 percent of the fourth graders, 27 percent of eighth graders and 14 percent of twelfth graders reported almost daily use of workbooks or worksheets.

- The average proficiencies of these students showed that in grade 4, higher-performing students reported workbook or worksheet activities almost every day or at least once a week; whereas, lower-performing students reported less than weekly use. In grade 12, such work on a daily basis was associated with lower average proficiency than when it occurred less than weekly.

- Although teachers reported that 72 percent of the fourth graders wrote in response to reading at least once a week or almost daily, only 56 percent of the students reported that this was the case.

- At each grade, a majority of the students reported writing in response to reading less frequently than almost every day.

- As with workbooks and worksheets, the relationship between average proficiency and more frequent writing in response to reading changed across the grade levels. However, the pattern was reversed. At grade 4, lower-performing students reported writing in response to reading almost daily; whereas, twelfth-graders with the lowest average proficiency reported doing this activity with the least frequency (less than weekly).

The information provided by fourth-graders and their teachers about workbooks, worksheets, and writing for the states is provided in TABLES 5.3 through 5.6. Across most of the participating jurisdictions, the same inconsistency between teachers' and students' reports about the frequency of workbook and worksheet activities occurred as with the national data. In general, the majority of students across all jurisdictions were involved in both types of activities at least once a week or daily.

TABLE 5.1 **Teachers' Reports on the Frequency with Which Students Work in a Reading Workbook or on a Worksheet and Write in Response to Reading as a Part of Reading Instruction, Grade 4, 1992 Reading Assessment**

	Students Work in a Reading Workbook or on a Worksheet					
	Almost Every Day		At Least Once a Week		Less Than Weekly	
	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency
Grade 4	33(2.6)	217(1.8)	48(3.2)	219(1.7)	20(2.5)	222(3.3)

	Students Write About Something They Have Read					
	Almost Every Day		At Least Once a Week		Less Than Weekly	
	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency
Grade 4	23(1.8)	221(2.7)	49(2.5)	218(1.8)	27(2.4)	217(2.1)

The standard errors of the estimated percentages and proficiencies appear in parentheses. It can be said with 95 percent certainty that for each population of interest, the value for the whole population is within plus or minus two standard errors of the estimate for the sample. In comparing two estimates, one must use the standard error of the difference (see Appendix for details). Percentages may not total 100 percent due to rounding error.

SOURCE: National Assessment of Educational Progress (NAEP), 1992 Reading Assessment.

TABLE 5.2 Students' Reports on the Frequency with Which They Work in a Reading Workbook or on a Worksheet and Write in Response to Reading as a Part of Reading Instruction, Grades 4, 8, and 12, 1992 Reading Assessment

	Students Work in a Reading Workbook or on a Worksheet					
	Almost Every Day		At Least Once a Week		Less Than Weekly	
	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency
Grade 4	51(1.5)	220(1.0)	28(0.9)	221(1.6)	20(1.0)	212(1.6)
Grade 8	27(0.7)	259(1.3)	35(0.8)	264(0.9)	38(0.8)	259(1.3)
Grade 12	14(0.9)	301(1.7)	31(1.1)	305(1.4)	56(1.4)	309(1.0)

	Students Write About Something They Have Read					
	Almost Every Day		At Least Once a Week		Less Than Weekly	
	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency
Grade 4	22(0.8)	213(1.6)	34(0.8)	220(1.2)	43(1.0)	221(1.1)
Grade 8	18(0.5)	259(1.4)	38(0.7)	263(1.2)	45(0.9)	259(1.1)
Grade 12	20(0.7)	294(1.0)	46(0.6)	294(0.7)	35(0.7)	286(0.8)

The standard errors of the estimated percentages and proficiencies appear in parentheses. It can be said with 95 percent certainty that for each population of interest, the value for the whole population is within plus or minus two standard errors of the estimate for the sample. In comparing two estimates, one must use the standard error of the difference (see Appendix for details). Percentages may not total 100 percent due to rounding error.

SOURCE: National Assessment of Educational Progress (NAEP), 1992 Reading Assessment.

TABLE 5.3 | Teachers' Reports on the Frequency with Which Students Work in a Reading Workbook or on a Worksheet as a Part of Reading Instruction, Grade 4, 1992 Reading Assessment

PUBLIC SCHOOLS	Almost Every Day		At Least Once a Week		Less Than Weekly	
	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency
NATION	31 (2.7)	214 (1.9)	48 (3.4)	217 (1.8)	22 (2.8)	222 (3.4)
Northeast	35 (5.6)	216 (3.1)	43 (5.1)	220 (4.4)	22 (7.0)	228 (8.4)!
Southeast	34 (5.1)	213 (3.3)	49 (5.4)	213 (2.6)	17 (6.0)	215(14.6)!
Central	27 (6.3)	219 (3.7)!	49 (9.3)	220 (3.8)!	25 (5.2)	225 (3.2)
West	28 (4.1)	206 (4.2)	50 (4.0)	217 (3.6)	22 (4.1)	217 (6.5)!
STATES						
Alabama	37 (3.6)	207 (2.9)	58 (3.4)	209 (2.1)	5 (1.5)	209 (7.9)!
Arizona	22 (2.5)	209 (3.2)	56 (2.9)	211 (1.7)	22 (2.9)	211 (2.8)
Arkansas	45 (3.8)	211 (1.8)	53 (3.7)	212 (1.9)	2 (0.9)	*** (***)
California	14 (2.1)	201 (4.8)	48 (3.4)	207 (3.0)	38 (3.6)	200 (3.3)
Colorado	10 (2.1)	219 (3.1)!	42 (3.6)	217 (2.1)	48 (3.6)	220 (1.9)
Connecticut	30 (3.5)	219 (3.5)	47 (3.3)	226 (2.3)	23 (3.4)	229 (2.6)
Delaware*	37 (0.9)	212 (0.9)	51 (1.2)	217 (1.0)	12 (0.8)	212 (3.6)
Dist. Columbia	29 (1.4)	186 (1.6)	55 (1.5)	187 (1.4)	16 (1.2)	191 (2.0)
Florida	35 (3.4)	207 (2.3)	47 (3.6)	211 (1.7)	18 (3.5)	211 (4.4)!
Georgia	37 (3.7)	211 (2.8)	55 (3.5)	213 (2.1)	9 (1.7)	217 (6.2)
Hawaii	26 (3.0)	202 (3.7)	49 (3.0)	205 (2.3)	25 (3.2)	201 (3.3)
Idaho	21 (2.9)	221 (2.7)	58 (3.6)	220 (1.3)	21 (3.3)	222 (1.9)
Indiana	42 (4.2)	222 (2.0)	52 (4.0)	222 (1.7)	6 (1.6)	227 (4.8)!
Iowa	27 (3.3)	225 (1.6)	47 (3.4)	227 (1.5)	27 (3.3)	228 (2.3)
Kentucky	24 (2.9)	212 (2.2)	58 (3.8)	213 (1.7)	18 (3.3)	216 (3.3)
Louisiana	49 (4.0)	206 (1.7)	50 (3.7)	203 (2.2)	1 (0.6)	*** (***)
Maine*	10 (2.1)	226 (3.7)!	56 (4.4)	227 (1.7)	35 (4.3)	231 (1.9)
Maryland	24 (2.9)	206 (3.3)	43 (3.1)	208 (3.1)	34 (3.4)	221 (2.0)
Massachusetts	38 (4.3)	224 (1.8)	44 (4.6)	229 (1.8)	18 (3.4)	232 (3.2)
Michigan	19 (2.7)	211 (2.9)	60 (3.7)	217 (2.1)	21 (3.5)	223 (2.3)
Minnesota	27 (3.7)	221 (2.5)	57 (4.2)	221 (2.0)	16 (2.8)	225 (3.9)
Mississippi	37 (4.0)	201 (2.3)	59 (4.0)	200 (2.1)	4 (1.2)	193 (6.7)!
Missouri	37 (4.2)	217 (2.5)	45 (3.8)	224 (1.7)	17 (3.1)	225 (3.8)
Nebraska*	33 (3.7)	223 (2.1)	51 (4.0)	223 (1.9)	16 (2.6)	221 (2.9)
New Hampshire*	22 (3.1)	232 (2.3)	47 (3.6)	229 (1.8)	31 (3.8)	230 (1.6)
New Jersey*	51 (3.5)	219 (1.6)	38 (3.7)	226 (2.9)	11 (2.8)	247 (2.9)!
New Mexico	22 (3.3)	211 (2.4)	61 (3.8)	213 (2.7)	17 (3.0)	208 (3.2)
New York*	38 (4.0)	207 (3.7)	42 (3.7)	226 (1.6)	20 (3.7)	214 (3.7)
North Carolina	14 (2.4)	212 (3.6)	62 (3.3)	211 (1.6)	24 (3.0)	216 (2.4)
North Dakota	50 (4.2)	227 (1.5)	44 (4.2)	226 (2.0)	6 (1.6)	226 (2.7)!
Ohio	25 (2.9)	218 (2.9)	60 (2.8)	218 (1.7)	16 (3.3)	223 (3.8)!
Oklahoma	39 (3.5)	220 (1.7)	57 (3.3)	223 (1.3)	4 (1.3)	228 (3.1)!
Pennsylvania	36 (3.6)	219 (2.3)	53 (3.6)	222 (1.9)	11 (2.4)	225 (3.9)!
Rhode Island	35 (3.2)	214 (3.4)	52 (3.6)	222 (1.9)	13 (2.6)	215 (3.5)
South Carolina	37 (3.5)	209 (2.5)	48 (3.3)	212 (2.2)	14 (2.9)	211 (3.3)!
Tennessee	44 (3.9)	211 (2.5)	47 (3.6)	215 (2.3)	9 (2.2)	209 (4.0)!
Texas	24 (3.8)	210 (3.1)	60 (4.0)	217 (2.2)	16 (2.6)	215 (3.5)
Utah	29 (3.3)	221 (2.3)	51 (4.0)	222 (1.3)	20 (3.2)	223 (3.1)
Virginia	21 (2.6)	218 (3.3)	49 (3.4)	222 (1.8)	30 (3.3)	228 (2.9)
West Virginia	39 (3.7)	216 (2.7)	55 (4.1)	216 (1.9)	6 (1.8)	217 (3.8)!
Wisconsin	27 (3.7)	224 (2.0)	50 (4.2)	226 (1.4)	24 (3.5)	224 (2.9)
Wyoming	28 (3.4)	222 (2.2)	57 (3.8)	226 (1.6)	15 (2.4)	226 (2.3)
TERRITORY						
Guam	41 (1.0)	180 (1.7)	50 (1.1)	186 (2.0)	9 (0.5)	171 (4.7)

*Did not satisfy one or more of the guidelines for school sample participation rates (see Appendix B for details).

The standard errors of the estimated percentages and proficiencies appear in parentheses. It can be said with 95 percent certainty that for each population of interest, the value for the whole population is within plus or minus two standard errors of the estimate for the sample. In comparing two estimates, one must use the standard error of the difference (see Appendix for details). Percentages may not total 100 percent due to rounding error. ***Sample size insufficient to permit reliable estimate. There were fewer than 62 students. !Interpret with caution - the nature of the sample does not allow accurate determination of the variability of this estimated statistic.

SOURCE: National Assessment of Educational Progress (NAEP), 1992 Reading Assessment.

TABLE 5.4 | Students' Reports on the Frequency with Which They Work in a Reading Workbook or on a Worksheet as a Part of Reading Instruction, Grade 4, 1992 Reading Assessment

PUBLIC SCHOOLS	Almost Every Day		At Least Once a Week		Less Than Weekly	
	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency
NATION	50 (1.6)	218 (1.1)	29 (1.0)	219 (1.8)	21 (1.1)	212 (1.8)
Northeast	48 (3.8)	222 (3.6)	30 (2.2)	222 (6.8)	21 (2.4)	221 (4.0)
Southeast	56 (3.5)	213 (2.3)	26 (2.6)	216 (2.9)	18 (2.0)	202 (7.7)
Central	51 (3.5)	220 (2.1)	27 (1.3)	223 (2.0)	22 (2.9)	215 (1.6)
West	45 (1.9)	216 (1.9)	31 (1.7)	215 (3.1)	24 (1.1)	208 (2.5)
STATES						
Alabama	60 (1.4)	212 (1.6)	25 (1.3)	210 (2.5)	15 (1.0)	195 (3.1)
Arizona	48 (1.7)	214 (1.6)	28 (1.2)	212 (1.6)	24 (1.2)	202 (2.4)
Arkansas	65 (1.5)	216 (1.6)	21 (1.1)	210 (2.3)	14 (0.9)	199 (2.6)
California	42 (1.3)	207 (2.0)	32 (1.3)	208 (2.9)	25 (1.2)	196 (3.1)
Colorado	43 (1.4)	219 (1.4)	29 (1.1)	219 (1.7)	28 (1.3)	215 (1.8)
Connecticut	52 (1.9)	224 (1.6)	27 (1.2)	224 (2.1)	21 (1.5)	221 (2.4)
Delaware*	56 (1.1)	216 (0.9)	26 (1.0)	219 (1.7)	18 (0.8)	201 (2.9)
Dist. Columbia	51 (0.8)	190 (1.1)	29 (0.9)	195 (1.6)	20 (0.6)	186 (2.2)
Florida	53 (1.7)	212 (1.5)	27 (1.0)	213 (2.0)	21 (1.4)	201 (2.2)
Georgia	59 (1.4)	216 (1.5)	24 (0.9)	215 (2.1)	17 (0.9)	204 (2.9)
Hawaii	44 (1.5)	208 (1.7)	32 (1.1)	204 (2.6)	24 (1.2)	202 (2.3)
Idaho	45 (1.6)	225 (1.3)	31 (1.1)	221 (1.3)	24 (1.2)	214 (1.9)
Indiana	62 (1.6)	224 (1.2)	25 (1.2)	224 (1.5)	13 (0.9)	214 (3.1)
Iowa	54 (1.9)	229 (1.0)	27 (1.4)	229 (1.8)	19 (1.3)	219 (2.3)
Kentucky	53 (1.5)	216 (1.5)	26 (1.0)	218 (1.8)	21 (1.2)	205 (1.9)
Louisiana	63 (1.4)	208 (1.5)	23 (1.1)	204 (1.6)	14 (0.7)	192 (2.3)
Maine*	38 (1.7)	229 (1.6)	32 (1.5)	229 (1.3)	30 (1.7)	228 (1.7)
Maryland	46 (1.5)	215 (1.9)	29 (0.9)	215 (1.7)	26 (1.3)	209 (2.2)
Massachusetts	55 (1.8)	229 (1.1)	27 (1.3)	231 (1.5)	18 (1.3)	222 (2.2)
Michigan	50 (1.9)	220 (1.7)	28 (1.2)	217 (1.8)	22 (1.4)	214 (2.1)
Minnesota	57 (2.0)	224 (1.2)	25 (1.4)	222 (2.0)	18 (1.3)	219 (2.9)
Mississippi	58 (1.4)	205 (1.3)	27 (1.1)	199 (2.3)	15 (1.0)	184 (3.0)
Missouri	60 (1.9)	225 (1.3)	23 (1.3)	222 (1.8)	16 (1.1)	210 (2.6)
Nebraska*	59 (1.8)	225 (1.3)	25 (1.3)	226 (1.5)	16 (1.2)	209 (2.5)
New Hampshire*	46 (2.2)	233 (1.4)	32 (1.5)	228 (1.8)	22 (1.4)	225 (2.0)
New Jersey*	60 (1.7)	228 (1.5)	25 (1.3)	224 (2.7)	15 (1.2)	215 (3.7)
New Mexico	52 (1.6)	215 (1.6)	28 (1.2)	212 (2.3)	21 (1.2)	207 (2.5)
New York*	51 (1.7)	219 (1.6)	30 (1.0)	216 (2.1)	19 (1.4)	208 (2.4)
North Carolina	49 (1.4)	213 (1.2)	30 (1.0)	217 (2.2)	21 (1.0)	207 (2.2)
North Dakota	66 (1.6)	231 (1.2)	22 (1.1)	224 (2.4)	13 (0.9)	213 (2.7)
Ohio	56 (1.7)	222 (1.5)	26 (1.3)	218 (1.7)	18 (1.2)	212 (2.5)
Oklahoma	63 (1.3)	224 (1.1)	23 (1.1)	222 (1.7)	14 (1.0)	210 (2.3)
Pennsylvania	60 (1.6)	225 (1.6)	26 (1.4)	222 (2.0)	14 (1.1)	212 (2.5)
Rhode Island	51 (1.6)	220 (1.8)	29 (1.2)	219 (1.9)	21 (1.3)	212 (3.2)
South Carolina	58 (2.0)	214 (1.5)	25 (1.4)	209 (2.3)	17 (1.2)	205 (2.8)
Tennessee	61 (1.5)	217 (1.5)	25 (1.2)	215 (2.4)	14 (1.0)	197 (2.4)
Texas	53 (1.2)	215 (1.8)	28 (1.0)	219 (2.1)	19 (1.0)	204 (2.5)
Utah	49 (1.5)	224 (1.2)	28 (1.1)	224 (1.5)	23 (1.2)	215 (2.0)
Virginia	49 (1.8)	223 (1.6)	28 (1.3)	222 (1.9)	23 (1.4)	223 (2.5)
West Virginia	64 (1.5)	221 (1.4)	23 (1.1)	217 (2.0)	12 (0.8)	197 (2.6)
Wisconsin	55 (2.2)	228 (1.0)	28 (1.4)	224 (1.5)	18 (1.2)	219 (2.4)
Wyoming	57 (1.6)	227 (1.3)	26 (0.9)	225 (1.4)	18 (1.2)	217 (2.4)
TERRITORY						
Guam	46 (1.1)	192 (1.7)	28 (1.1)	184 (2.3)	26 (0.9)	169 (2.1)

*Did not satisfy one or more of the guidelines for school sample participation rates (see Appendix B for details).

The standard errors of the estimated percentages and proficiencies appear in parentheses. It can be said with 95 percent certainty that for each population of interest, the value for the whole population is within plus or minus two standard errors of the estimate for the sample. In comparing two estimates, one must use the standard error of the difference (see Appendix for details). Percentages may not total 100 percent due to rounding error.

SOURCE: National Assessment of Educational Progress (NAEP), 1992 Reading Assessment.

TABLE 5.5 | Teachers' Reports on the Frequency with Which Students Write About Something They Have Read, Grade 4, 1992 Reading Assessment

PUBLIC SCHOOLS	Almost Every Day		At Least Once a Week		Less Than Weekly	
	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency
NATION	25 (1.8)	221 (2.8)	49 (2.6)	217 (1.9)	26 (2.5)	214 (2.5,
Northeast	35 (5.5)	226 (6.5)	47 (4.6)	220 (6.2)	17 (3.0)	209 (4.9)
Southeast	16 (3.1)	216 (7.3)	49 (5.8)	214 (3.4)	35 (6.0)	212 (3.3)
Central	21 (3.5)	223 (2.8)	54 (5.7)	221 (2.6)	25 (5.7)	220 (4.1)!
West	29 (2.8)	217 (5.2)	45 (4.0)	213 (3.4)	26 (3.8)	214 (4.4)
STATES						
Alabama	11 (2.6)	207 (4.6)!	60 (3.4)	207 (2.3)	29 (3.5)	211 (3.5)
Arizona	26 (3.1)	210 (2.7)	55 (3.1)	211 (1.6)	19 (2.5)	211 (3.5)
Arkansas	6 (1.7)	220 (4.1)!	54 (3.3)	211 (1.7)	40 (3.5)	211 (2.2)
California	37 (3.3)	207 (3.7)	56 (3.1)	201 (2.9)	7 (1.5)	201 (5.2)!
Colorado	39 (2.9)	219 (1.8)	51 (2.9)	219 (1.5)	9 (1.9)	214 (4.5)!
Connecticut	37 (3.2)	233 (1.6)	51 (2.9)	222 (2.0)	12 (1.9)	210 (4.4)
Delaware*	25 (1.0)	219 (2.1)	49 (1.1)	216 (0.9)	26 (1.1)	208 (1.2)
Dist. Columbia	42 (1.5)	188 (1.6)	51 (1.6)	185 (1.3)	7 (0.6)	192 (3.1)
Florida	26 (3.2)	208 (2.4)	59 (3.0)	210 (1.8)	16 (2.0)	210 (3.2)
Georgia	29 (3.4)	216 (3.7)	60 (2.8)	212 (1.8)	12 (2.3)	211 (5.4)
Hawaii	25 (2.7)	206 (3.2)	56 (3.4)	202 (2.4)	19 (2.3)	204 (2.8)
Idaho	18 (2.5)	222 (2.1)	61 (2.9)	221 (1.2)	22 (2.0)	219 (1.9)
Indiana	13 (2.5)	229 (3.5)	52 (3.3)	220 (1.6)	35 (3.4)	224 (2.0)
Iowa	20 (2.9)	226 (2.8)	61 (3.2)	228 (1.2)	19 (2.8)	223 (1.9)
Kentucky	18 (2.5)	211 (3.3)	54 (3.6)	215 (1.9)	28 (3.3)	212 (2.7)
Louisiana	9 (1.5)	204 (3.9)	62 (3.5)	204 (1.9)	29 (3.5)	207 (2.1)
Maine*	29 (3.0)	227 (2.4)	55 (3.3)	228 (1.7)	16 (3.1)	233 (2.2)
Maryland	51 (3.4)	215 (2.6)	44 (3.4)	210 (2.4)	5 (1.3)	207 (5.5)!
Massachusetts	29 (2.8)	231 (2.6)	52 (2.9)	227 (1.3)	19 (2.2)	224 (2.4)
Michigan	24 (3.0)	218 (3.2)	50 (3.7)	219 (1.8)	26 (3.4)	214 (4.0)
Minnesota	21 (2.7)	225 (2.5)	54 (3.4)	222 (2.0)	25 (3.4)	219 (2.4)
Mississippi	16 (2.6)	200 (4.1)	57 (3.6)	199 (2.1)	27 (3.0)	202 (2.3)
Missouri	24 (3.2)	222 (3.9)	50 (3.4)	220 (1.9)	26 (3.0)	223 (2.1)
Nebraska*	24 (3.0)	222 (2.2)	60 (3.2)	222 (1.6)	16 (2.5)	228 (3.3)
New Hampshire*	29 (2.7)	227 (1.9)	59 (2.9)	231 (1.8)	12 (1.9)	227 (3.4)
New Jersey*	20 (3.3)	223 (4.0)	63 (3.8)	225 (2.1)	17 (2.9)	226 (2.4)
New Mexico	19 (2.6)	211 (2.6)	60 (3.4)	213 (2.5)	21 (2.9)	211 (3.5)
New York*	40 (3.6)	216 (2.3)	51 (3.4)	217 (1.9)	10 (1.7)	206 (7.0)
North Carolina	24 (3.2)	215 (2.6)	58 (3.0)	211 (1.7)	18 (2.4)	214 (2.6)
North Dakota	13 (2.8)	227 (3.7)!	45 (4.3)	226 (1.8)	42 (4.4)	228 (1.6)
Ohio	20 (2.7)	228 (3.0)	56 (3.2)	218 (1.4)	24 (3.1)	214 (2.5)
Oklahoma	17 (2.6)	221 (2.5)	55 (3.1)	222 (1.3)	28 (3.1)	223 (2.2)
Pennsylvania	24 (2.8)	224 (2.9)	54 (3.4)	219 (1.7)	23 (3.2)	225 (2.7)
Rhode Island	28 (2.8)	222 (2.1)	50 (3.1)	218 (2.3)	21 (3.1)	214 (4.4)
South Carolina	18 (2.8)	213 (3.7)	61 (2.8)	210 (1.6)	20 (2.5)	210 (2.8)
Tennessee	18 (2.3)	208 (2.9)	53 (3.1)	215 (2.0)	29 (2.7)	211 (2.2)
Texas	16 (1.9)	212 (3.2)	60 (2.8)	216 (2.3)	24 (2.6)	215 (3.0)
Utah	24 (3.3)	223 (2.8)	51 (3.3)	222 (1.5)	26 (2.7)	219 (1.5)
Virginia	32 (2.9)	228 (2.6)	58 (3.0)	220 (1.6)	10 (1.6)	223 (3.7)
West Virginia	11 (2.1)	217 (4.1)	58 (3.6)	216 (1.8)	31 (3.3)	215 (2.6)
Wisconsin	28 (3.0)	224 (1.7)	57 (3.0)	225 (1.3)	15 (3.1)	227 (2.6)!
Wyoming	24 (2.2)	224 (2.5)	54 (2.9)	226 (1.6)	22 (2.8)	222 (2.1)
TERRITORY						
Guam	30 (1.1)	182 (1.8)	49 (1.0)	179 (2.1)	21 (0.9)	188 (2.6)

*Did not satisfy one or more of the guidelines for school sample participation rates (see Appendix B for details).

The standard errors of the estimated percentages and proficiencies appear in parentheses. It can be said with 95 percent certainty that for each population of interest, the value for the whole population is within plus or minus two standard errors of the estimate for the sample. In comparing two estimates, one must use the standard error of the difference (see Appendix for details). Percentages may not total 100 percent due to rounding error. !Interpret with caution - the nature of the sample does not allow accurate determination of the variability of this estimated statistic.

SOURCE: National Assessment of Educational Progress (NAEP), 1992 Reading Assessment.

TABLE 5.6 | Students' Reports on the Frequency with Which They Write About Something They Have Read, Grade 4, 1992 Reading Assessment

PUBLIC SCHOOLS	Almost Every Day		At Least Once a Week		Less Than Weekly	
	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency
NATION	23 (0.8)	211 (1.6)	34 (1.0)	218 (1.3)	43 (1.2)	219 (1.2)
Northeast	25 (2.0)	220 (4.8)	37 (2.2)	224 (4.7)	38 (1.8)	221 (3.7)
Southeast	23 (1.7)	207 (3.9)	33 (1.7)	214 (2.6)	44 (2.3)	214 (2.6)
Central	21 (1.4)	213 (3.0)	34 (2.1)	219 (1.6)	45 (2.4)	222 (2.2)
West	23 (1.7)	206 (2.5)	34 (1.7)	216 (2.2)	43 (2.4)	217 (2.3)
STATES						
Alabama	22 (1.2)	202 (2.4)	34 (1.1)	209 (2.0)	44 (1.5)	212 (1.9)
Arizona	22 (0.8)	206 (2.0)	35 (1.1)	213 (1.6)	43 (1.3)	212 (1.5)
Arkansas	19 (1.1)	202 (1.7)	33 (1.1)	213 (1.6)	48 (1.4)	216 (1.6)
California	26 (1.1)	200 (2.8)	37 (1.2)	208 (2.5)	37 (1.3)	205 (2.2)
Colorado	25 (1.3)	218 (1.6)	35 (1.1)	219 (1.5)	40 (1.5)	218 (1.5)
Connecticut	21 (1.4)	221 (2.8)	35 (1.1)	224 (1.6)	44 (1.6)	224 (1.4)
Delaware*	21 (1.0)	207 (1.8)	30 (1.4)	215 (1.6)	48 (1.2)	217 (1.1)
Dist. Columbia	37 (0.9)	188 (1.4)	34 (0.9)	192 (1.4)	29 (0.9)	192 (2.1)
Florida	22 (1.1)	203 (2.3)	36 (1.0)	211 (1.4)	42 (1.2)	213 (1.5)
Georgia	25 (1.0)	207 (1.8)	36 (1.2)	215 (2.0)	40 (1.1)	217 (1.8)
Hawaii	26 (1.2)	199 (2.5)	38 (1.1)	209 (2.1)	36 (1.2)	206 (1.8)
Idaho	16 (0.7)	216 (1.9)	31 (1.0)	222 (1.3)	54 (1.1)	222 (1.2)
Indiana	17 (0.9)	212 (2.0)	33 (1.1)	223 (1.7)	50 (1.4)	226 (1.5)
Iowa	19 (1.2)	223 (2.1)	33 (1.1)	228 (1.5)	48 (1.3)	228 (1.3)
Kentucky	22 (0.8)	207 (1.8)	36 (1.0)	215 (1.6)	41 (1.0)	217 (1.4)
Louisiana	24 (0.9)	198 (1.5)	34 (1.0)	205 (1.7)	41 (1.1)	209 (1.2)
Maine*	19 (1.3)	226 (2.0)	33 (1.2)	230 (1.8)	48 (1.6)	229 (1.3)
Maryland	28 (1.2)	210 (2.0)	36 (1.0)	216 (1.7)	36 (1.3)	213 (1.9)
Massachusetts	19 (1.0)	223 (1.7)	37 (1.1)	230 (1.5)	45 (1.2)	229 (1.2)
Michigan	21 (1.2)	210 (1.9)	33 (1.1)	217 (1.9)	46 (1.5)	222 (1.7)
Minnesota	16 (0.8)	216 (2.4)	34 (0.9)	222 (1.5)	49 (1.2)	225 (1.4)
Mississippi	28 (1.3)	192 (1.7)	35 (1.1)	203 (1.9)	37 (1.6)	204 (1.8)
Missouri	24 (1.4)	217 (2.1)	35 (1.1)	226 (1.5)	41 (1.4)	221 (1.4)
Nebraska*	18 (0.9)	218 (1.6)	36 (1.2)	223 (1.6)	46 (1.2)	225 (1.5)
New Hampshire*	20 (1.2)	228 (1.9)	34 (1.3)	232 (1.7)	46 (1.4)	228 (1.3)
New Jersey*	19 (1.0)	216 (1.6)	34 (1.1)	226 (1.9)	47 (1.4)	228 (1.7)
New Mexico	21 (1.1)	204 (3.2)	34 (1.0)	212 (1.5)	44 (1.4)	217 (1.9)
New York*	25 (1.6)	210 (2.1)	33 (1.1)	215 (2.1)	42 (1.6)	221 (2.0)
North Carolina	25 (1.1)	208 (2.1)	38 (0.9)	216 (1.4)	38 (1.2)	214 (1.5)
North Dakota	15 (1.0)	224 (2.2)	37 (1.2)	227 (1.6)	48 (1.7)	229 (1.3)
Ohio	20 (1.1)	213 (2.4)	33 (1.1)	218 (1.7)	47 (1.4)	222 (1.4)
Oklahoma	19 (1.0)	218 (1.5)	33 (1.3)	222 (1.6)	48 (1.5)	223 (1.1)
Pennsylvania	21 (1.0)	216 (2.2)	34 (1.1)	222 (1.6)	45 (1.4)	226 (1.4)
Rhode Island	22 (0.9)	213 (2.3)	34 (0.9)	215 (2.0)	45 (1.4)	223 (2.2)
South Carolina	25 (1.3)	205 (2.2)	33 (1.0)	212 (1.6)	42 (1.4)	215 (1.7)
Tennessee	21 (1.0)	207 (2.0)	35 (0.9)	216 (1.8)	43 (1.2)	215 (1.7)
Texas	22 (1.0)	204 (1.8)	35 (1.1)	216 (1.8)	43 (1.2)	218 (1.7)
Utah	17 (1.1)	218 (1.8)	30 (1.0)	224 (1.5)	53 (1.4)	222 (1.2)
Virginia	24 (1.1)	219 (2.3)	36 (1.1)	223 (1.7)	40 (1.3)	224 (1.6)
West Virginia	17 (1.0)	210 (2.3)	35 (1.1)	219 (1.6)	49 (1.2)	218 (1.5)
Wisconsin	19 (1.2)	219 (1.9)	36 (1.0)	225 (1.2)	45 (1.4)	227 (1.2)
Wyoming	19 (0.8)	222 (1.8)	31 (1.0)	226 (1.6)	50 (1.3)	225 (1.3)
TERRITORY						
Guam	26 (0.9)	179 (1.9)	33 (1.0)	187 (2.5)	40 (1.0)	184 (1.8)

*Did not satisfy one or more of the guidelines for school sample participation rates (see Appendix B for details).

The standard errors of the estimated percentages and proficiencies appear in parentheses. It can be said with 95 percent certainty that for each population of interest, the value for the whole population is within plus or minus two standard errors of the estimate for the sample. In comparing two estimates, one must use the standard error of the difference (see Appendix for details). Percentages may not total 100 percent due to rounding error.

SOURCE: National Assessment of Educational Progress (NAEP), 1992 Reading Assessment.

Reading as a Part of Reading Instruction

Some educators in the past have warned that too little of the reading instruction in many classrooms actually involves the act of reading.[40] However, it seems clear that learning to read well must involve extensive and varied reading experiences. Wilkinson, Wardrop and Anderson (1988) found positive correlations between time spent in silent reading and reading achievement.[41]

Beyond providing time for students to read silently as a part of instruction, many educators have recently placed significant emphasis on allowing developing readers to select their own books as a part of their classroom experiences. It has been suggested that developing the ability to select and enjoy reading books is the hallmark of cultivating lifelong reading habits.[42]

Teachers and students were asked about the frequency of silent reading and reading books of their own choosing as a part of reading instruction. Their responses for the nation are summarized in TABLES 5.7 and 5.8. The overwhelming frequency of both activities is perhaps an indication that most fourth-grade teachers feel these activities are important for their students.

- Teachers reported that at least two-thirds of fourth-grade students read silently and were provided time to read books they had chosen almost every day.

- No significant differences in average reading proficiency were observed for fourth-grade students based on how often their teachers reported the use of either activity.

- Fourth-grade students and their teachers were relatively close in their perceptions of how frequently students read silently and read books of their own choosing during reading instruction.

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[40] M. Thurlow, J. Graden, J. E. Ysseldyke, and R. Algozzine, "Student Reading During Reading Class: The Lost Activity in Reading Instruction," *Journal of Educational Research, 77*(5), 267-272, 1984.

[41] J. Wilkinson, J. L. Wardrop, and R. C. Anderson, "Silent Reading Reconsidered: Reinterpreting Reading Instruction and Its Effects," *American Educational Research Journal*, 25(1), 127-144, 1988.

[42] E. H. Hiebert, K. B. Mervar, and D. Person, "Research Directions: Children's Selection of Trade Books in Libraries and Classrooms," *Language Arts, 67*, 758-763, 1990.

T. V. Rasinski, "In Search of the 'Good' Reader," *Journal of Reading*, 84-85, 1989.

- Both activities seemed to be less prevalent in the higher grades. At grade 4, more than half of the students reported engaging in both activities almost every day. At grade 8, nearly half (47 percent) of the students reported reading silently almost every day, but by grade 12 this proportion had dropped to 34 percent. This same pattern was clearly evident with having students read books they had chosen. At grade 4, more than half (55 percent) of the students reported that this activity occurred almost daily, whereas only 15 percent of eighth graders and 4 percent of twelfth graders indicated the same frequency.

- The fourth-grade students who reported reading silently nearly every day had the highest reading proficiency, as did the fourth-graders who reported being able to read books of their own choosing almost daily. In addition, engaging in both activities at least once a week was associated with higher proficiencies than was doing so less than weekly.

- At grade 8, those students who said they were instructed to read silently less than weekly had lower average reading proficiency than their peers who were instructed to do so more frequently.

- Twelfth-grade students who reported having time to read books of their own choosing less than weekly had higher performance on the reading assessment than did twelfth graders who read books they had chosen at least once a week or almost daily.

Teachers' and students' reports of silent reading and self-selected reading for the trial state assessments are provided in Tables 5.9 through 5.12. Reflecting the national patterns, fourth-grade students and their teachers in participating jurisdictions indicated that a considerable amount of instructional time was devoted to silent reading and the reading of student-selected books.

TABLE 5.7 **Teachers' Reports on the Frequency with Which Students Read Silently and Are Provided Time for Reading Books of Their Own Choosing, Grade 4, 1992 Reading Assessment**

Students Read Silently						
	Almost Every Day		At Least Once a Week		Less Than Weekly	
	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency
Grade 4	73(2.1)	220(1.7)	25(2.0)	215(2.1)	2(0.6)	209(5.3)
Students Are Provided Time for Reading Books of Their Own Choosing						
	Almost Every Day		At Least Once a Week		Less Than Weekly	
	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency
Grade 4	67(2.5)	221(1.5)	25(2.2)	215(2.0)	8(1.3)	211(4.5)

The standard errors of the estimated percentages and proficiencies appear in parentheses. It can be said with 95 percent certainty that for each population of interest, the value for the whole population is within plus or minus two standard errors of the estimate for the sample. In comparing two estimates, one must use the standard error of the difference (see Appendix for details). Percentages may not total 100 percent due to rounding error.

SOURCE: National Assessment of Educational Progress (NAEP), 1992 Reading Assessment.

TABLE 5.8 **Students' Reports on the Frequency with Which They Read Silently and Are Provided Time for Reading Books of Their Own Choosing, Grades 4, 8, and 12, 1992 Reading Assessment**

Students Read Silently						
	Almost Every Day		At Least Once a Week		Less Than Weekly	
	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency
Grade 4	66(1.0)	224(1.2)	23(0.8)	217(1.4)	11(0.5)	196(2.0)
Grade 8	47(1.1)	263(0.8)	37(0.9)	263(1.2)	16(0.5)	252(1.6)
Grade 12	34(0.8)	291(0.8)	40(0.7)	292(0.7)	26(0.8)	291(1.0)

Students Are Provided Time For Reading Books of Their Own Choosing						
	Almost Every Day		At Least Once a Week		Less Than Weekly	
	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency
Grade 4	55(1.3)	225(1.2)	27(1.0)	217(1.5)	18(0.8)	206(1.4)
Grade 8	15(0.9)	261(1.4)	25(1.0)	260(1.3)	60(1.3)	261(1.2)
Grade 12	4(0.3)	278(2.5)	9(0.4)	275(1.6)	87(0.5)	294(0.6)

The standard errors of the estimated percentages and proficiencies appear in parentheses. It can be said with 95 percent certainty that for each population of interest, the value for the whole population is within plus or minus two standard errors of the estimate for the sample. In comparing two estimates, one must use the standard error of the difference (see Appendix for details). Percentages may not total 100 percent due to rounding error.

SOURCE: National Assessment of Educational Progress (NAEP), 1992 Reading Assessment.

TABLE 5.9 | Teachers' Reports on the Frequency with Which Students Read Silently, Grade 4, 1992 Reading Assessment

PUBLIC SCHOOLS	Almost Every Day		At Least Once a Week		Less Than Weekly	
	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency
NATION	75 (2.3)	219 (1.8)	23 (2.1)	213 (2.3)	2 (0.5)	208 (5.6)!
Northeast	90 (3.0)	220 (4.4)	9 (3.1)	224 (7.8)!	1 (1.4)	*** (***)
Southeast	63 (5.5)	215 (4.5)	35 (5.2)	210 (4.0)	2 (1.0)	*** (***)
Central	75 (3.7)	222 (2.8)	24 (3.6)	217 (2.7)	1 (0.6)	*** (***)
West	73 (5.9)	216 (2.9)	24 (5.1)	210 (5.4)!	4 (1.8)	*** (***)
STATES						
Alabama	58 (3.4)	210 (2.2)	37 (3.4)	205 (2.8)	5 (1.4)	214 (4.5)!
Arizona	73 (2.5)	211 (1.4)	26 (2.4)	210 (2.6)	1 (0.6)	*** (***)
Arkansas	49 (3.0)	213 (1.8)	45 (2.9)	211 (2.1)	6 (2.1)	212 (3.9)!
California	83 (2.3)	204 (2.4)	16 (2.3)	202 (5.5)	1 (0.4)	*** (***)
Colorado	82 (2.6)	219 (1.3)	16 (2.4)	214 (3.6)	2 (0.8)	*** (***)
Connecticut	84 (2.7)	226 (1.7)	16 (2.7)	217 (3.3)	0 (0.0)	*** (***)
Delaware*	70 (0.8)	216 (1.0)	29 (0.8)	211 (1.1)	1 (0.2)	*** (***)
Dist. Columbia	81 (1.4)	187 (1.1)	19 (1.4)	189 (1.9)	1 (0.1)	*** (***)
Florida	68 (2.8)	208 (1.7)	29 (2.7)	213 (2.0)	3 (1.0)	199 (8.8)!
Georgia	70 (2.8)	214 (2.0)	27 (2.6)	210 (3.0)	3 (0.9)	*** (***)
Hawaii	71 (2.6)	205 (1.8)	26 (2.4)	201 (3.1)	3 (0.9)	189 (6.0)!
Idaho	74 (2.9)	221 (1.2)	25 (2.7)	221 (1.6)	1 (0.6)	*** (***)
Indiana	66 (3.1)	223 (1.5)	33 (3.0)	220 (2.2)	2 (1.0)	*** (***)
Iowa	79 (2.8)	227 (1.2)	19 (2.6)	225 (2.5)	3 (1.0)	*** (***)
Kentucky	68 (3.8)	214 (1.6)	29 (3.8)	213 (2.1)	3 (1.0)	210 (4.0)!
Louisiana	57 (3.1)	205 (1.8)	42 (3.2)	206 (2.1)	2 (0.5)	*** (***)
Maine*	80 (2.8)	229 (1.4)	20 (2.8)	226 (2.6)	0 (0.1)	*** (***)
Maryland	82 (2.4)	213 (1.7)	17 (2.4)	208 (4.5)	1 (0.7)	*** (***)
Massachusetts	79 (2.9)	228 (1.3)	20 (2.9)	226 (2.2)	0 (0.4)	*** (***)
Michigan	71 (3.1)	218 (1.9)	27 (2.9)	217 (2.0)	2 (0.9)	*** (***)
Minnesota	69 (3.8)	221 (2.0)	29 (3.6)	223 (2.0)	2 (1.0)	*** (***)
Mississippi	61 (3.4)	201 (1.7)	37 (3.3)	200 (2.6)	3 (0.9)	192 (9.9)!
Missouri	72 (3.4)	221 (1.7)	26 (3.4)	223 (2.3)	2 (0.6)	*** (***)
Nebraska*	75 (3.0)	223 (1.3)	22 (3.1)	226 (2.5)	3 (1.2)	*** (***)
New Hampshire*	82 (2.7)	229 (1.3)	18 (2.7)	232 (3.1)	0 (0.0)	*** (***)
New Jersey*	64 (3.5)	226 (1.7)	33 (3.5)	223 (2.9)	2 (1.0)	*** (***)
New Mexico	65 (3.5)	212 (2.0)	32 (3.5)	211 (3.3)	3 (1.5)	*** (***)
New York*	82 (2.8)	217 (1.5)	16 (2.4)	217 (3.4)	2 (1.1)	*** (***)
North Carolina	63 (3.4)	215 (1.6)	31 (3.2)	210 (2.5)	6 (1.6)	202 (4.7)!
North Dakota	69 (4.0)	228 (1.4)	29 (3.7)	225 (2.5)	2 (1.5)	*** (***)
Ohio	72 (3.8)	220 (1.7)	25 (3.4)	215 (3.0)	3 (1.2)	207(10.6)!
Oklahoma	57 (4.0)	222 (1.5)	38 (3.9)	223 (1.3)	5 (1.5)	220 (4.9)!
Pennsylvania	69 (3.2)	223 (1.6)	29 (3.1)	217 (2.4)	1 (0.7)	*** (***)
Rhode Island	74 (2.6)	220 (2.2)	26 (2.5)	213 (3.6)	0 (0.3)	*** (***)
South Carolina	68 (3.1)	212 (1.7)	29 (2.9)	209 (2.3)	2 (0.8)	*** (***)
Tennessee	55 (2.6)	212 (2.0)	39 (2.9)	214 (2.3)	5 (1.5)	209 (4.1)!
Texas	62 (2.8)	215 (2.1)	35 (2.8)	216 (2.3)	3 (1.2)	209(10.5)!
Utah	74 (3.1)	223 (1.3)	25 (2.9)	219 (2.3)	1 (0.7)	*** (***)
Virginia	67 (3.2)	224 (1.8)	30 (3.2)	220 (2.1)	3 (1.0)	216 (5.4)!
West Virginia	54 (3.4)	220 (1.8)	41 (3.7)	210 (2.2)	5 (1.5)	215 (5.2)!
Wisconsin	76 (2.9)	226 (1.1)	23 (2.9)	224 (2.2)	2 (0.7)	*** (***)
Wyoming	72 (2.8)	225 (1.2)	25 (2.6)	223 (2.6)	3 (1.1)	216 (8.2)!
TERRITORY						
Guam	67 (1.2)	182 (1.9)	31 (1.2)	183 (1.9)	2 (0.5)	*** (***)

*Did not satisfy one or more of the guidelines for school sample participation rates (see Appendix B for details).

The standard errors of the estimated percentages and proficiencies appear in parentheses. It can be said with 95 percent certainty that for each population of interest, the value for the whole population is within plus or minus two standard errors of the estimate for the sample. In comparing two estimates, one must use the standard error of the difference (see Appendix for details). Percentages may not total 100 percent due to rounding error. When the proportion of students is either 0 percent or 100 percent, the standard error is inestimable. However, percentages 99.5 percent and greater were rounded to 100 percent and percentages 0.5 percent and less were rounded to 0 percent. ***Sample size insufficient to permit reliable estimate. There were fewer than 62 students. !Interpret with caution - the nature of the sample does not allow accurate determination of the variability of this estimated statistic.

SOURCE: National Assessment of Educational Progress (NAEP), 1992 Reading Assessment.

TABLE 5.10 | Students' Reports on the Frequency with Which They Read Silently, Grade 4, 1992 Reading Assessment

PUBLIC SCHOOLS	Almost Every Day		At Least Once a Week		Less Than Weekly	
	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency
NATION	67 (1.1)	222 (1.3)	22 (0.9)	214 (1.6)	11 (0.6)	193 (2.1)
Northeast	66 (2.9)	227 (4.6)	22 (2.1)	220 (2.8)	11 (1.7)	199 (6.6)
Southeast	62 (2.8)	216 (3.2)	26 (2.1)	212 (3.0)	12 (1.3)	193 (3.1)
Central	68 (1.7)	225 (1.9)	22 (1.7)	215 (4.0)	10 (1.0)	197 (5.2)
West	69 (1.7)	221 (1.6)	20 (1.5)	210 (3.2)	12 (0.7)	186 (3.7)
STATES						
Alabama	61 (1.3)	213 (1.7)	27 (1.1)	210 (2.2)	12 (0.8)	190 (3.6)
Arizona	66 (1.4)	215 (1.2)	21 (1.0)	213 (1.9)	13 (0.9)	189 (2.7)
Arkansas	58 (1.2)	215 (1.5)	28 (1.1)	215 (1.6)	14 (0.8)	195 (2.3)
California	68 (1.5)	211 (2.2)	20 (1.2)	202 (2.6)	12 (0.7)	180 (3.5)
Colorado	73 (1.2)	223 (1.1)	18 (1.1)	215 (2.0)	10 (0.5)	194 (2.9)
Connecticut	72 (1.5)	227 (1.3)	19 (1.2)	221 (2.5)	9 (0.7)	203 (3.1)
Delaware*	67 (1.2)	219 (0.7)	21 (1.0)	214 (2.0)	11 (0.7)	191 (2.3)
Dist. Columbia	64 (1.1)	196 (0.9)	23 (0.9)	189 (1.6)	13 (0.7)	170 (2.5)
Florida	61 (1.3)	214 (1.3)	26 (1.1)	211 (1.8)	13 (0.9)	193 (2.8)
Georgia	68 (1.3)	218 (1.4)	21 (1.0)	212 (2.2)	11 (0.7)	195 (3.2)
Hawaii	66 (1.5)	211 (1.8)	21 (1.1)	202 (2.3)	14 (0.8)	189 (2.4)
Idaho	70 (1.6)	224 (0.9)	21 (1.2)	222 (1.5)	9 (0.7)	199 (3.0)
Indiana	60 (1.5)	224 (1.4)	28 (1.4)	225 (1.4)	11 (0.8)	210 (2.7)
Iowa	75 (1.3)	231 (0.9)	17 (1.0)	226 (1.9)	8 (0.7)	201 (2.9)
Kentucky	65 (1.5)	218 (1.4)	23 (1.2)	215 (2.1)	11 (0.8)	195 (2.4)
Louisiana	60 (1.4)	209 (1.3)	27 (1.2)	207 (1.8)	13 (0.8)	189 (2.6)
Maine*	75 (1.6)	230 (1.2)	18 (1.2)	230 (1.9)	7 (0.7)	211 (3.1)
Maryland	67 (1.3)	219 (1.5)	22 (1.0)	209 (2.1)	11 (0.8)	187 (4.1)
Massachusetts	68 (1.2)	230 (1.1)	24 (1.0)	228 (1.4)	8 (0.7)	214 (3.0)
Michigan	70 (1.8)	222 (1.6)	20 (1.2)	215 (2.1)	10 (0.8)	200 (2.6)
Minnesota	69 (1.4)	226 (1.3)	22 (1.0)	221 (2.0)	8 (0.7)	202 (3.2)
Mississippi	62 (1.2)	203 (1.3)	25 (0.9)	202 (1.9)	12 (0.8)	182 (2.8)
Missouri	68 (1.4)	225 (1.2)	21 (1.1)	222 (1.9)	11 (0.6)	204 (2.8)
Nebraska*	68 (1.3)	226 (1.1)	21 (1.1)	221 (2.2)	11 (0.7)	209 (3.5)
New Hampshire*	76 (1.5)	232 (1.1)	17 (1.1)	230 (2.0)	8 (0.7)	209 (3.4)
New Jersey*	61 (1.6)	226 (1.5)	28 (1.1)	230 (1.9)	11 (0.9)	209 (3.5)
New Mexico	63 (1.3)	216 (1.4)	24 (1.0)	212 (2.5)	13 (0.8)	199 (3.0)
New York*	65 (1.4)	222 (1.2)	23 (1.1)	213 (2.0)	12 (0.9)	193 (4.7)
North Carolina	65 (1.4)	219 (1.3)	24 (1.0)	210 (1.9)	11 (0.7)	190 (3.2)
North Dakota	65 (1.4)	230 (1.1)	24 (1.0)	229 (1.7)	11 (1.0)	212 (2.3)
Ohio	64 (1.6)	224 (1.4)	23 (1.2)	217 (1.9)	12 (0.9)	200 (3.3)
Oklahoma	59 (1.6)	224 (1.2)	28 (1.2)	223 (1.2)	13 (1.0)	213 (2.4)
Pennsylvania	67 (1.4)	225 (1.6)	23 (1.0)	223 (1.7)	10 (0.7)	205 (2.6)
Rhode Island	65 (1.6)	223 (1.5)	23 (1.2)	216 (2.8)	11 (0.9)	201 (4.0)
South Carolina	64 (1.3)	215 (1.2)	24 (1.0)	211 (2.3)	12 (0.8)	198 (3.1)
Tennessee	61 (1.5)	217 (1.6)	28 (1.1)	215 (2.0)	11 (0.7)	194 (2.3)
Texas	63 (1.6)	217 (1.7)	25 (1.2)	215 (2.0)	12 (0.7)	202 (2.7)
Utah	70 (1.5)	226 (1.1)	20 (1.1)	217 (2.2)	10 (0.8)	205 (2.9)
Virginia	67 (1.4)	226 (1.6)	23 (1.2)	222 (1.8)	10 (0.8)	200 (2.6)
West Virginia	60 (1.4)	220 (1.3)	28 (1.1)	221 (2.0)	12 (0.8)	196 (2.8)
Wisconsin	70 (1.2)	229 (1.1)	22 (1.0)	222 (1.7)	8 (0.6)	206 (2.9)
Wyoming	72 (1.1)	229 (1.1)	19 (0.9)	223 (2.0)	9 (0.7)	203 (3.2)
TERRITORY						
Guam	57 (1.2)	193 (1.4)	23 (0.8)	184 (2.8)	19 (0.9)	157 (2.6)

*Did not satisfy one or more of the guidelines for school sample participation rates (see Appendix B for details).

The standard errors of the estimated percentages and proficiencies appear in parentheses. It can be said with 95 percent certainty that for each population of interest, the value for the whole population is within plus or minus two standard errors of the estimate for the sample. In comparing two estimates, one must use the standard error of the difference (see Appendix for details). Percentages may not total 100 percent due to rounding error.

SOURCE: National Assessment of Educational Progress (NAEP), 1992 Reading Assessment.

TABLE 5.11 | Teachers' Reports on the Frequency with Which Students Are Provided Time for Reading Books of Their Own Choosing, Grade 4, 1992 Reading Assessment

PUBLIC SCHOOLS	Almost Every Day		At Least Once a Week		Less Than Weekly	
	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency
NATION	68 (2.7)	220 (1.7)	25 (2.3)	213 (2.2)	8 (1.2)	207 (5.1)
Northeast	71 (7.7)	222 (5.0)	19 (6.3)	217 (3.2)!	10 (3.0)	214(15.2)!
Southeast	61 (4.3)	214 (3.3)	31 (4.3)	213 (3.9)	8 (1.3)	209 (4.9)!
Central	71 (4.2)	225 (2.4)	21 (3.1)	216 (4.8)	8 (2.9)	205 (5.8)!
West	69 (5.4)	217 (2.9)	27 (4.7)	208 (5.3)!	4 (0.9)	*** (***)
STATES						
Alabama	50 (3.4)	210 (2.5)	35 (3.4)	208 (2.2)	15 (2.6)	202 (5.0)
Arizona	72 (3.0)	213 (1.3)	22 (2.7)	207 (2.8)	6 (1.5)	201 (7.2)!
Arkansas	54 (3.5)	213 (1.8)	31 (2.8)	209 (2.5)	16 (2.9)	212 (2.3)
California	82 (2.5)	204 (2.7)	16 (2.2)	204 (4.2)	2 (0.9)	*** (***)
Colorado	77 (2.6)	219 (1.4)	17 (2.2)	214 (2.6)	6 (1.7)	219 (4.9)!
Connecticut	77 (2.2)	227 (1.6)	18 (2.1)	216 (4.1)	5 (1.5)	216 (5.1)!
Delaware*	60 (1.3)	216 (0.9)	24 (1.1)	216 (1.7)	16 (0.8)	208 (2.1)
Dist. Columbia	47 (1.3)	188 (1.2)	41 (1.5)	183 (1.7)	12 (0.5)	198 (2.5)
Florida	71 (3.1)	210 (1.8)	25 (2.9)	210 (2.3)	4 (1.0)	201 (6.8)!
Georgia	73 (3.0)	214 (1.9)	21 (2.8)	212 (3.3)	6 (1.2)	197 (5.4)!
Hawaii	68 (3.3)	206 (1.9)	22 (2.3)	199 (3.2)	10 (2.2)	198 (4.3)!
Idaho	76 (2.9)	222 (1.2)	19 (2.6)	218 (2.2)	5 (1.6)	214 (3.1)!
Indiana	60 (4.2)	222 (1.8)	32 (4.1)	223 (1.9)	8 (1.5)	227 (4.4)
Iowa	84 (3.2)	227 (1.1)	10 (2.2)	225 (3.3)!	7 (2.2)	222 (4.0)!
Kentucky	44 (4.3)	213 (1.9)	35 (4.0)	214 (2.1)	21 (3.3)	213 (2.6)
Louisiana	44 (3.7)	208 (1.9)	39 (3.6)	205 (2.3)	17 (2.6)	197 (3.9)
Maine*	77 (3.5)	229 (1.4)	19 (3.1)	228 (2.9)	5 (1.5)	221 (4.0)!
Maryland	68 (3.1)	215 (2.0)	25 (2.9)	204 (3.7)	7 (1.8)	211 (6.6)!
Massachusetts	68 (3.5)	229 (1.4)	27 (3.1)	229 (2.0)	5 (1.4)	205 (5.9)!
Michigan	70 (3.5)	219 (2.0)	23 (3.1)	213 (3.6)	8 (2.1)	214 (3.8)!
Minnesota	68 (4.0)	223 (1.8)	25 (3.5)	217 (2.8)	6 (1.6)	223 (6.2)!
Mississippi	39 (3.4)	206 (2.1)	46 (3.0)	196 (2.3)	15 (2.6)	198 (4.2)
Missouri	68 (3.6)	223 (1.7)	24 (3.3)	218 (2.0)	8 (2.0)	220 (4.8)!
Nebraska*	76 (3.2)	223 (1.2)	20 (3.2)	222 (3.6)	4 (1.5)	*** (***)
New Hampshire*	73 (2.9)	231 (1.6)	25 (2.7)	228 (2.4)	2 (0.9)	*** (***)
New Jersey*	45 (4.4)	226 (2.0)	32 (4.0)	224 (3.3)	23 (3.4)	223 (4.1)
New Mexico	57 (4.0)	214 (1.8)	33 (3.7)	211 (4.5)	9 (2.1)	204 (7.0)!
New York*	72 (3.1)	217 (1.5)	18 (2.3)	214 (4.4)	9 (2.1)	210(10.7)!
North Carolina	68 (3.2)	213 (1.8)	22 (2.3)	212 (2.0)	10 (2.0)	208 (4.1)!
North Dakota	68 (4.6)	227 (1.4)	23 (3.4)	227 (2.5)	9 (3.3)	224 (9.0)!
Ohio	66 (3.7)	219 (1.8)	28 (3.3)	220 (2.2)	7 (2.0)	213 (9.8)!
Oklahoma	57 (4.0)	224 (1.2)	36 (3.7)	221 (1.6)	7 (2.0)	210 (3.3)!
Pennsylvania	60 (4.0)	225 (2.1)	26 (2.9)	217 (2.2)	14 (2.7)	215 (4.0)
Rhode Island	68 (3.5)	221 (2.0)	24 (3.3)	214 (3.9)	8 (2.0)	212 (5.7)!
South Carolina	67 (3.5)	212 (1.6)	24 (2.8)	211 (2.7)	8 (1.8)	203 (4.7)!
Tennessee	42 (3.2)	213 (2.5)	43 (3.1)	214 (1.8)	15 (2.3)	207 (5.1)
Texas	64 (2.8)	218 (1.8)	29 (2.6)	212 (2.9)	7 (1.6)	204 (8.2)!
Utah	78 (3.0)	222 (1.2)	14 (2.5)	222 (2.6)	8 (1.5)	214 (3.9)
Virginia	68 (3.4)	225 (1.9)	24 (2.7)	217 (2.1)	8 (1.6)	217 (3.6)
West Virginia	51 (3.9)	219 (1.9)	29 (3.2)	214 (2.5)	20 (3.0)	212 (3.2)
Wisconsin	72 (3.7)	226 (1.0)	24 (3.4)	223 (2.5)	4 (1.2)	221 (8.1)!
Wyoming	71 (3.0)	226 (1.3)	23 (2.7)	219 (2.6)	5 (1.8)	228 (6.5)!
TERRITORY						
Guam	69 (1.0)	182 (1.6)	23 (0.9)	177 (3.0)	8 (0.5)	188 (4.2)

*Did not satisfy one or more of the guidelines for school sample participation rates (see Appendix B for details).

The standard errors of the estimated percentages and proficiencies appear in parentheses. It can be said with 95 percent certainty that for each population of interest, the value for the whole population is within plus or minus two standard errors of the estimate for the sample. In comparing two estimates, one must use the standard error of the difference (see Appendix for details). Percentages may not total 100 percent due to rounding error. ***Sample size insufficient to permit reliable estimate. There were fewer than 62 students. !Interpret with caution - the nature of the sample does not allow accurate determination of the variability of this estimated statistic.

SOURCE: National Assessment of Educational Progress (NAEP), 1992 Reading Assessment.

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TABLE 5.12 | **Students' Reports on the Frequency with Which They Are Provided Time for Reading Books of Their Own Choosing, Grade 4, 1992 Reading Assessment**

PUBLIC SCHOOLS	Almost Every Day		At Least Once a Week		Less Than Weekly	
	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency
NATION	55 (1.5)	223 (1.3)	27 (1.1)	215 (1.7)	18 (0.8)	203 (1.4)
Northeast	55 (5.5)	229 (4.8)	27 (3.6)	216 (3.3)	18 (2.5)	211 (3.9)
Southeast	53 (2.6)	218 (3.3)	26 (1.6)	212 (2.5)	21 (1.6)	201 (3.1)
Central	57 (1.9)	224 (1.9)	28 (2.2)	220 (3.4)	15 (1.5)	203 (3.4)
West	55 (1.8)	222 (1.5)	28 (1.3)	212 (3.7)	18 (1.1)	198 (3.0)
STATES						
Alabama	43 (1.5)	213 (2.2)	32 (1.0)	208 (1.9)	25 (1.1)	203 (2.0)
Arizona	54 (1.2)	217 (1.3)	28 (1.1)	207 (2.3)	19 (0.9)	200 (2.1)
Arkansas	50 (1.7)	216 (1.9)	31 (1.2)	211 (1.9)	20 (1.1)	203 (2.0)
California	57 (1.4)	214 (2.0)	25 (1.1)	201 (2.8)	18 (0.8)	187 (3.0)
Colorado	57 (1.5)	224 (1.2)	27 (1.2)	216 (1.6)	16 (1.0)	204 (2.3)
Connecticut	54 (1.5)	229 (1.3)	27 (1.2)	223 (2.1)	19 (0.8)	211 (2.4)
Delaware*	53 (1.0)	219 (0.9)	25 (0.9)	214 (1.8)	22 (1.1)	206 (2.7)
Dist. Columbia	50 (1.0)	193 (1.2)	29 (0.8)	192 (1.6)	21 (0.9)	188 (1.6)
Florida	50 (1.5)	215 (1.4)	29 (1.0)	210 (2.1)	21 (0.9)	201 (2.2)
Georgia	55 (1.2)	220 (1.6)	29 (1.0)	211 (2.0)	16 (0.8)	202 (2.5)
Hawaii	53 (1.3)	211 (1.8)	28 (1.0)	202 (2.1)	19 (0.9)	194 (2.1)
Idaho	60 (1.7)	226 (1.1)	24 (1.1)	218 (1.5)	16 (1.0)	209 (2.4)
Indiana	52 (1.7)	225 (1.4)	29 (1.2)	222 (1.9)	18 (1.1)	217 (2.3)
Iowa	69 (1.4)	232 (1.0)	20 (1.0)	223 (1.8)	11 (0.7)	208 (2.3)
Kentucky	44 (1.9)	219 (1.6)	31 (1.1)	212 (1.8)	25 (1.5)	209 (2.1)
Louisiana	42 (1.4)	207 (1.5)	33 (1.1)	206 (1.6)	25 (1.1)	202 (1.9)
Maine*	59 (1.9)	231 (1.3)	24 (1.3)	227 (1.9)	17 (1.3)	222 (2.2)
Maryland	51 (1.5)	219 (1.7)	29 (1.2)	211 (2.2)	21 (1.1)	205 (2.3)
Massachusetts	56 (1.7)	232 (1.0)	28 (1.3)	224 (1.6)	16 (0.9)	223 (2.2)
Michigan	55 (1.4)	224 (1.8)	27 (1.1)	214 (1.4)	18 (0.9)	206 (2.9)
Minnesota	56 (1.7)	227 (1.2)	31 (1.4)	222 (1.6)	13 (0.8)	205 (2.5)
Mississippi	41 (1.6)	203 (1.7)	32 (1.2)	202 (2.0)	26 (1.2)	196 (2.1)
Missouri	59 (1.5)	227 (1.2)	25 (1.3)	219 (2.0)	15 (1.0)	207 (2.3)
Nebraska*	64 (1.7)	227 (1.3)	22 (1.2)	217 (1.7)	14 (1.2)	215 (3.1)
New Hampshire*	64 (1.6)	234 (1.2)	23 (1.3)	225 (2.0)	13 (1.2)	219 (2.2)
New Jersey*	41 (2.1)	227 (1.6)	33 (1.3)	224 (1.9)	26 (1.8)	223 (3.1)
New Mexico	47 (1.6)	215 (1.9)	32 (1.5)	212 (2.4)	21 (1.0)	210 (2.5)
New York*	54 (1.4)	220 (1.4)	27 (1.1)	215 (2.2)	19 (1.1)	209 (3.9)
North Carolina	54 (1.7)	218 (1.3)	28 (1.1)	213 (1.8)	18 (0.9)	202 (2.6)
North Dakota	57 (1.7)	231 (1.3)	27 (1.3)	227 (1.6)	16 (1.1)	217 (2.6)
Ohio	54 (1.8)	222 (1.4)	29 (1.3)	219 (2.1)	17 (1.0)	212 (2.4)
Oklahoma	51 (1.6)	225 (1.3)	31 (1.5)	222 (1.3)	18 (0.9)	215 (2.2)
Pennsylvania	54 (1.9)	226 (1.5)	29 (1.3)	220 (1.8)	17 (1.0)	215 (2.1)
Rhode Island	53 (1.7)	223 (2.0)	28 (1.2)	217 (2.2)	19 (1.1)	212 (3.2)
South Carolina	51 (1.5)	215 (1.4)	30 (1.1)	212 (1.9)	19 (1.1)	204 (2.1)
Tennessee	46 (1.4)	216 (1.7)	33 (1.3)	215 (2.0)	21 (1.0)	207 (2.1)
Texas	50 (1.9)	219 (1.8)	31 (1.5)	214 (2.0)	19 (1.0)	205 (2.2)
Utah	60 (1.5)	228 (1.2)	25 (1.2)	217 (1.7)	15 (0.9)	209 (2.4)
Virginia	54 (1.8)	226 (1.7)	29 (1.1)	220 (1.9)	17 (1.1)	217 (2.4)
West Virginia	45 (1.3)	222 (1.6)	30 (1.0)	218 (1.7)	25 (1.0)	210 (1.9)
Wisconsin	58 (1.6)	230 (1.1)	28 (1.2)	222 (1.6)	14 (0.9)	212 (2.8)
Wyoming	59 (1.5)	228 (1.3)	25 (1.1)	223 (1.7)	16 (1.1)	219 (2.1)
TERRITORY						
Guam	42 (1.0)	186 (1.9)	32 (1.2)	191 (1.7)	26 (1.0)	171 (2.7)

*Did not satisfy one or more of the guidelines for school sample participation rates (see Appendix B for details).

The standard errors of the estimated percentages and proficiencies appear in parentheses. It can be said with 95 percent certainty that for each population of interest, the value for the whole population is within plus or minus two standard errors of the estimate for the sample. In comparing two estimates, one must use the standard error of the difference (see Appendix for details). Percentages may not total 100 percent due to rounding error.

SOURCE: National Assessment of Educational Progress (NAEP), 1992 Reading Assessment.

Reading Assessment Activities in the Classroom

The various methods used to assess reading performance in the classroom are the focus of a continuing discussion in the education community. A significant reform effort is currently taking place that seeks to move assessment away from objective, decontextualized testing of individual skills toward what has been termed authentic or performance assessment.[43] Fueling this effort is a belief that the manner in which students are assessed may reflect the way they are taught. Consequently, if more complex, integrative abilities are the goal of education, then the assessment of what students have learned should mirror that goal and should require demonstration of these higher-order processes.[44]

Specific innovations that have been suggested for improving literacy assessments include having students discuss books they have read or provide written responses to reading.[45] Some studies have found that these less traditional assessment formats may provide a better indication of students' interactions with text and the processes that result in comprehension.[46] In addition to providing more authentic measures of literacy abilities, it has been suggested that these assessment formats may themselves serve as learning activities that complement the learning process rather than put it on hold.[47]

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[43] R. Mitchell, *Testing for Learning: How New Approaches to Evaluation Can Improve American Schools*, (New York, NY: The Free Press, 1992).

H. Berlak, et al. (Eds.) *Toward a New Science of Educational Testing and Assessment*, (Albany, NY: State University of New York Press, 1992).

[44] L. B. Resnick, and D. P. Resnick, "Assessing the Thinking Curriculum: New Tools for Educational Reform," in B. R. Gifford, and M. C. O'Connor, *Changing Assessments: Alternative Views of Aptitude, Achievement and Instruction*, (Boston MA: Kluwer Academic Publishers, 1992).

D. P. Wolf, P. G. LeMahieu, and J. Eresh, "Good Measure: Assessment as a Tool for Educational Reform," *Educational Leadership*, 49(3), 14-19, 1992.

[45] P. Winograd, S. Paris, S., and C. Bridge, "Improving the Assessment of Literacy," *The Reading Teacher*, 45(2), 108-115, 1991.

[46] I. Seda, "Assessment Format and Comprehension Performance," paper presented at the 34th annual meeting of the International Reading Association in New Orleans, LA, 1989.

[47] D. W. Rea, and D. K. Thompson, "Designing Transformative Test for Secondary Literature Students," *Journal of Reading*, 34(1), 6-11, 1990.

The teachers of fourth-grade students in the NAEP reading assessment were asked about the various methods they used to assess students' progress in reading. Their reports about two of those methods, multiple-choice tests and writing paragraphs, are summarized for the nation in TABLE 5.13.

- Teachers reported that students' progress in reading was measured more frequently by using written responses to reading than by using multiple-choice tests. Only 15 percent of fourth graders were being taught by teachers who reported using multiple-choice tests to assess reading progress at least once a week. In comparison, 45 percent of the fourth graders had teachers who said that they have students write paragraphs about what they have read at least once a week to assess progress in reading.

- Thirty-five percent of the fourth graders had teachers who reported using multiple-choice tests less than monthly, whereas only 15 percent of the fourth graders were assessed this infrequently with written paragraphs about what they had read.

State-by-state data regarding teachers' use of assessment formats are summarized in TABLES 5.14 and 5.15. There were variations across participating jurisdictions with regard to the use of multiple-choice tests and written paragraphs for assessing reading progress. For example, while only 3 percent of the students in Maine had teachers who reported using multiple-choice tests at least once a week, 51 percent of the students in Louisiana had teachers who used multiple-choice tests this often. Teachers in Indiana reported that 25 percent of the students wrote paragraphs at least once a week. In comparison, teachers in Maryland reported that this method was used at least once a week for 72 percent of the students.

TABLE 5.13 **Teachers' Reports on the Frequency of Using Various Methods of Assessing Students' Progress in Reading, Grade 4, 1992 Reading Assessment**

Multiple-Choice Tests

	At Least Once a Week		At Least Once a Month		Less Than Monthly	
	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency
Grade 4	15(2.0)	212(3.0)	50(2.9)	219(1.6)	35(2.8)	221(1.9)

Writing Paragraphs About What They Have Read

	At Least Once a Week		At Least Once a Month		Less Than Monthly	
	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency
Grade 4	45(2.3)	221(2.2)	40(2.5)	219(1.4)	15(1.6)	213(2.9)

The standard errors of the estimated percentages and proficiencies appear in parentheses. It can be said with 95 percent certainty that for each population of interest, the value for the whole population is within plus or minus two standard errors of the estimate for the sample. In comparing two estimates, one must use the standard error of the difference (see Appendix for details). Percentages may not total 100 percent due to rounding error.

SOURCE: National Assessment of Educational Progress (NAEP), 1992 Reading Assessment.

TABLE 5.14 | Teachers' Reports on the Frequency with Which Multiple-Choice Tests Are Used to Assess Student Progress in Reading, Grade 4, 1992 Reading Assessment

PUBLIC SCHOOLS	At Least Once a Week		At Least Once a Month		Less Than Monthly	
	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency
NATION	14 (2.1)	209 (3.2)	49 (3.3)	218 (1.7)	36 (3.2)	220 (2.2)
Northeast	13 (4.9)	215 (7.8)!	48 (5.7)	218 (4.0)	36 (7.6)	225 (5.6)!
Southeast	22 (4.2)	205 (4.3)!	58 (6.2)	216 (2.6)	19 (4.4)	216 (9.9)!
Central	11 (4.4)	219 (5.6)!	51 (7.1)	222 (3.4)	37 (6.1)	221 (2.8)
West	10 (2.7)	198 (3.9)!	39 (6.4)	215 (4.1)	51 (7.0)	217 (3.8)
STATES						
Alabama	32 (2.8)	206 (2.4)	56 (3.5)	211 (2.1)	12 (2.2)	203 (5.1)
Arizona	12 (1.8)	206 (4.0)	43 (3.3)	212 (1.7)	45 (3.2)	210 (2.1)
Arkansas	33 (3.5)	209 (2.1)	50 (3.5)	213 (2.2)	17 (2.7)	213 (2.9)
California	4 (1.4)	211 (6.3)!	30 (3.3)	203 (4.1)	66 (3.4)	204 (2.4)
Colorado	7 (2.1)	221 (3.5)!	26 (3.2)	216 (2.3)	67 (3.2)	219 (1.5)
Connecticut	6 (1.5)	224 (6.1)!	45 (3.4)	224 (2.3)	49 (3.8)	226 (2.0)
Delaware*	14 (0.7)	213 (2.3)	56 (1.2)	214 (1.1)	30 (1.0)	217 (1.6)
Dist. Columbia	34 (1.4)	182 (1.3)	46 (1.5)	186 (1.5)	20 (1.1)	198 (2.4)
Florida	15 (2.1)	210 (3.7)	53 (3.0)	209 (1.4)	31 (3.1)	209 (2.2)
Georgia	20 (2.5)	207 (3.5)	63 (2.8)	215 (1.9)	17 (2.4)	211 (4.1)
Hawaii	11 (1.8)	205 (4.1)	49 (2.8)	207 (1.9)	40 (3.1)	199 (2.7)
Idaho	15 (2.2)	218 (2.2)	45 (3.8)	222 (1.5)	40 (3.8)	220 (1.7)
Indiana	10 (2.5)	219 (3.0)!	65 (3.2)	222 (1.6)	25 (2.6)	225 (3.1)
Iowa	5 (1.6)	230 (4.3)!	54 (4.1)	226 (1.4)	41 (4.1)	227 (1.9)
Kentucky	19 (3.3)	213 (2.6)	51 (3.8)	212 (1.6)	30 (3.3)	217 (2.6)
Louisiana	51 (3.4)	205 (1.7)	38 (3.3)	202 (2.4)	10 (2.0)	218 (3.8)!
Maine*	3 (1.6)	*** (***)	33 (3.7)	227 (2.2)	64 (4.1)	229 (1.4)
Maryland	7 (1.4)	192 (7.3)	39 (3.4)	211 (2.9)	54 (3.4)	215 (1.9)
Massachusetts	12 (2.2)	224 (3.6)	36 (3.4)	222 (2.0)	52 (2.8)	232 (1.7)
Michigan	9 (2.4)	206 (7.0)!	48 (4.1)	217 (2.6)	43 (4.0)	220 (1.8)
Minnesota	8 (2.1)	223 (2.5)!	61 (3.9)	223 (1.7)	31 (3.5)	218 (3.2)
Mississippi	44 (3.6)	198 (2.5)	49 (3.8)	202 (1.8)	7 (1.5)	200 (4.5)!
Missouri	18 (2.6)	219 (3.1)	56 (3.7)	222 (1.7)	26 (3.0)	224 (3.1)
Nebraska*	6 (2.9)	225 (4.1)!	56 (3.8)	222 (1.7)	38 (3.7)	223 (2.0)
New Hampshire*	7 (2.0)	235 (3.2)!	38 (3.7)	228 (2.0)	56 (3.8)	230 (1.5)
New Jersey*	26 (3.8)	216 (3.3)	54 (4.3)	225 (2.2)	19 (3.2)	235 (2.9)
New Mexico	9 (1.9)	213 (3.9)!	44 (3.8)	214 (2.7)	47 (3.8)	210 (2.5)
New York*	14 (2.9)	199 (7.7)!	46 (3.2)	217 (2.4)	40 (3.5)	221 (2.4)
North Carolina	14 (2.3)	207 (2.9)	54 (3.6)	212 (1.8)	32 (3.6)	216 (2.3)
North Dakota	11 (2.3)	228 (4.4)!	61 (4.2)	225 (1.5)	28 (3.8)	231 (1.8)
Ohio	15 (2.5)	217 (3.1)	57 (3.6)	216 (2.1)	27 (3.4)	226 (2.0)
Oklahoma	19 (2.5)	225 (1.9)	58 (3.4)	221 (1.3)	23 (3.2)	223 (2.4)
Pennsylvania	16 (2.8)	222 (3.5)	54 (3.6)	222 (1.9)	29 (3.4)	221 (2.9)
Rhode Island	10 (2.2)	216 (6.5)!	51 (3.2)	216 (2.3)	39 (3.6)	222 (2.2)
South Carolina	25 (2.8)	205 (3.0)	59 (3.0)	213 (1.6)	16 (2.2)	212 (3.1)
Tennessee	25 (2.8)	208 (3.2)	57 (2.9)	214 (1.9)	18 (2.5)	216 (3.3)
Texas	28 (3.7)	212 (3.8)	49 (3.4)	217 (2.5)	23 (3.1)	216 (2.8)
Utah	19 (2.4)	222 (2.9)	51 (3.1)	222 (1.3)	31 (2.8)	220 (1.9)
Virginia	11 (1.9)	220 (3.1)	56 (2.8)	222 (1.8)	34 (3.0)	225 (2.4)
West Virginia	23 (2.6)	219 (3.1)	60 (3.3)	215 (1.9)	17 (2.8)	216 (3.8)
Wisconsin	4 (1.6)	216 (8.0)!	53 (4.2)	228 (1.4)	43 (4.1)	222 (1.5)
Wyoming	8 (1.8)	224 (3.8)!	49 (3.8)	224 (1.7)	43 (4.1)	225 (1.9)
TERRITORY						
Guam	29 (1.1)	179 (2.0)	49 (1.1)	183 (2.0)	21 (1.0)	184 (3.1)

*Did not satisfy one or more of the guidelines for school sample participation rates (see Appendix B for details).

The standard errors of the estimated percentages and proficiencies appear in parentheses. It can be said with 95 percent certainty that for each population of interest, the value for the whole population is within plus or minus two standard errors of the estimate for the sample. In comparing two estimates, one must use the standard error of the difference (see Appendix for details). Percentages may not total 100 percent due to rounding error. ***Sample size insufficient to permit reliable estimate. There were fewer than 62 students. !Interpret with caution - the nature of the sample does not allow accurate determination of the variability of this estimated statistic.

SOURCE: National Assessment of Educational Progress (NAEP), 1992 Reading Assessment.

TABLE 5.15 | Teachers' Reports on the Frequency with Which Students Write Paragraphs About What They Have Read to Assess Their Progress in Reading, Grade 4, 1992 Reading Assessment

PUBLIC SCHOOLS	At Least Once a Week		At Least Once a Month		Less Than Monthly	
	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency
NATION	46 (2.5)	220 (2.3)	39 (2.6)	218 (1.6)	14 (1.7)	210 (3.2)
Northeast	58 (6.4)	222 (5.7)	30 (6.0)	220 (4.1)	12 (2.6)	210(10.8)!
Southeast	38 (4.1)	216 (4.2)	47 (4.7)	213 (3.3)	15 (3.9)	208 (4.8)!
Central	49 (5.2)	223 (3.4)	38 (4.9)	220 (2.6)	13 (3.4)	215 (4.1)!
West	41 (4.2)	214 (3.8)	42 (4.6)	218 (3.8)	17 (3.7)	206 (5.6)!
STATES						
Alabama	37 (3.4)	211 (2.4)	49 (3.4)	207 (2.1)	13 (2.4)	206 (4.0)
Arizona	46 (3.0)	209 (2.0)	42 (2.9)	212 (2.3)	12 (2.0)	209 (3.0)
Arkansas	27 (3.4)	212 (2.0)	47 (3.2)	213 (1.9)	26 (3.0)	210 (2.3)
California	63 (3.7)	205 (3.0)	34 (3.4)	202 (3.2)	3 (1.3)	190(12.3)!
Colorado	57 (3.1)	219 (1.4)	33 (2.7)	217 (2.1)	10 (2.1)	217 (3.8)!
Connecticut	57 (3.1)	227 (1.4)	37 (3.0)	222 (2.6)	6 (1.4)	216 (5.7)!
Delaware*	40 (0.6)	219 (1.2)	38 (1.0)	214 (1.0)	22 (1.2)	207 (2.1)
Dist. Columbia	66 (1.3)	187 (1.3)	28 (1.3)	186 (1.7)	6 (0.8)	188 (3.7)
Florida	54 (3.6)	209 (1.9)	39 (3.2)	210 (1.8)	6 (1.2)	205 (7.3)
Georgia	54 (3.2)	215 (2.0)	36 (3.1)	210 (2.8)	10 (1.6)	211 (4.7)
Hawaii	52 (3.2)	206 (2.4)	38 (3.0)	202 (2.4)	9 (1.6)	196 (4.2)
Idaho	38 (3.6)	223 (1.6)	48 (3.8)	220 (1.2)	14 (2.4)	218 (3.5)
Indiana	25 (2.8)	223 (2.5)	47 (3.5)	224 (1.7)	28 (3.4)	220 (2.8)
Iowa	39 (3.4)	227 (1.9)	48 (3.0)	226 (1.4)	13 (2.5)	227 (2.5)
Kentucky	39 (3.6)	214 (2.4)	46 (3.6)	213 (1.8)	14 (2.7)	212 (2.3)!
Louisiana	32 (3.0)	205 (3.0)	52 (3.7)	203 (1.7)	17 (2.7)	209 (2.9)
Maine*	54 (4.1)	228 (1.7)	39 (3.6)	229 (1.7)	7 (1.8)	227 (3.7)!
Maryland	72 (2.9)	213 (2.0)	24 (2.7)	210 (3.4)	4 (1.0)	205 (5.2)!
Massachusetts	45 (3.7)	228 (2.0)	42 (3.3)	228 (1.9)	12 (2.3)	225 (3.2)
Michigan	43 (3.5)	219 (2.3)	42 (3.9)	216 (2.4)	14 (2.2)	217 (4.8)
Minnesota	37 (3.9)	223 (1.7)	40 (4.1)	219 (2.8)	23 (3.4)	223 (2.9)
Mississippi	33 (3.5)	199 (2.8)	48 (3.6)	201 (2.2)	19 (2.4)	201 (3.2)
Missouri	43 (3.6)	222 (2.4)	38 (3.0)	221 (1.9)	19 (2.3)	223 (2.4)
Nebraska*	44 (4.2)	223 (1.6)	40 (3.3)	220 (1.8)	16 (2.8)	230 (3.0)
New Hampshire*	55 (3.5)	230 (1.4)	34 (3.2)	231 (2.1)	11 (2.1)	227 (4.2)
New Jersey*	42 (3.7)	225 (2.5)	43 (4.0)	227 (2.4)	15 (2.8)	220 (4.0)
New Mexico	52 (4.5)	213 (2.2)	39 (4.7)	213 (2.6)	9 (1.9)	198 (7.3)!
New York*	51 (3.5)	218 (2.0)	42 (3.4)	214 (2.9)	7 (1.5)	215 (4.9)!
North Carolina	57 (3.5)	213 (2.0)	34 (3.5)	214 (2.2)	9 (1.7)	206 (3.4)!
North Dakota	28 (3.8)	226 (2.8)	41 (4.3)	227 (1.6)	31 (3.8)	228 (2.4)
Ohio	40 (3.8)	221 (2.5)	45 (3.7)	218 (1.7)	15 (2.8)	217 (4.4)!
Oklahoma	36 (3.3)	224 (1.8)	51 (3.4)	222 (1.3)	13 (2.2)	219 (2.3)
Pennsylvania	41 (3.4)	223 (2.2)	43 (3.5)	221 (1.9)	16 (2.5)	218 (3.4)
Rhode Island	50 (3.7)	223 (2.1)	37 (2.8)	215 (3.2)	12 (2.4)	209 (5.8)
South Carolina	44 (3.8)	213 (2.0)	43 (3.4)	208 (2.2)	13 (2.3)	210 (3.4)
Tennessee	36 (2.9)	215 (2.4)	50 (2.6)	213 (1.8)	14 (2.1)	206 (3.1)
Texas	45 (3.0)	216 (2.6)	43 (3.1)	216 (2.2)	12 (2.7)	209 (3.8)!
Utah	37 (3.1)	224 (1.8)	41 (2.7)	221 (1.7)	22 (2.8)	218 (2.1)
Virginia	63 (2.8)	225 (1.9)	30 (2.5)	218 (2.1)	7 (1.5)	227 (4.1)!
West Virginia	29 (3.4)	220 (2.5)	50 (3.5)	217 (2.0)	21 (2.9)	208 (2.9)
Wisconsin	41 (3.6)	223 (1.7)	47 (3.5)	227 (1.4)	12 (2.5)	224 (2.8)!
Wyoming	44 (3.6)	227 (1.7)	41 (3.3)	224 (1.7)	15 (2.4)	220 (3.0)
TERRITORY						
Guam	53 (1.2)	181 (1.9)	36 (1.2)	182 (2.3)	11 (0.5)	186 (2.7)

*Did not satisfy one or more of the guidelines for school sample participation rates (see Appendix B for details).

The standard errors of the estimated percentages and proficiencies appear in parentheses. It can be said with 95 percent certainty that for each population of interest, the value for the whole population is within plus or minus two standard errors of the estimate for the sample. In comparing two estimates, one must use the standard error of the difference (see Appendix for details). Percentages may not total 100 percent due to rounding error. !Interpret with caution - the nature of the sample does not allow accurate determination of the variability of this estimated statistic.

SOURCE: National Assessment of Educational Progress (NAEP), 1992 Reading Assessment.

Summary

Teachers were utilizing a variety of activities in their reading instruction, many of which reflected current views of reading and reading pedagogy. Although workbook and worksheet activities continued to play a significant role in reading instruction, writing tasks were also prevalent in most classrooms. In addition, according to both teachers and students, silent reading was used heavily in reading instruction, with self-selected books being employed to a lesser extent.

The data indicated some differences in instructional activities across the grade levels. Workbooks and worksheets were most prevalent in the lower grades, particularly at grade four where 51 percent of the students reported using them every day. According to student reports, however, teachers relied less on these materials at eighth grade and even less at twelfth grade. The data on students reading silently and reading books of their own choosing suggested the same pattern. In general, students reported reading less as a part of reading instruction as they moved through the grades.

At grade 4, students who reported using workbooks or worksheets almost every day had the highest performance on the NAEP reading assessment. The reverse was true for students in grade 12. Twelfth graders who reported using workbooks or worksheets less than weekly performed better on the assessment than did their peers who used these materials more frequently.

The relationship between proficiency and writing in response to reading as a part of reading instruction also reversed between fourth and twelfth grade. Fourth-grade students who said they wrote in response to reading almost every day had lower proficiency than their counterparts who reported doing so less frequently. However, at grade 12, students who reported writing in response to reading almost every day had higher proficiencies than twelfth-graders who said they were asked to integrate reading and writing less often.

Higher performance at grade 4 was associated with students who reported reading silently in class more frequently. The same was true at grade four with students reading books of their own choosing. At grade 8, students who said they read silently during instruction at least once a week performed better than students who did so less than weekly. Twelfth graders reporting reading books of their own choosing less than weekly had the highest proficiency.

Teachers indicated that students were assessed less often using multiple-choice tests than by writing paragraphs about what they had read. Teachers reported that close to one-half (45 percent) of the fourth-grade students wrote paragraphs for assessment purposes on at least a weekly basis, while only 15 percent of them took multiple-choice tests with the same frequency.

Chapter Six

Reading Habits and Practices

Reading For Fun Outside of School

The relationship between the amount of reading done outside of school and reading achievement has been well documented by NAEP[48] and other studies.[49] For example, in their study based on daily journals kept by children documenting the amount of time they spent on various activities outside of school, Anderson, Wilson, and Fielding concluded that the amount of reading outside of school was the best predictor of several measures of reading achievement.

As part of the 1992 reading assessment, NAEP asked students in grades 4, 8, and 12 to report on the frequency with which they read for fun on their own time. The results are shown in TABLE 6.1.

- At all three grades, students who reported reading more frequently for fun on their own time had higher average reading proficiency than those who reported reading less frequently.

- At grade 4, 13 percent of the students reported that they never or hardly ever read for fun on their own time. Fewer than half reported such reading daily, although another one-third reported reading for fun outside of school on at least a weekly basis.

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[48] Mary A. Foertsch, *Reading In and Out of School: Factors Influencing the Literacy Achievement of American Students in Grades 4, 8, and 12, in 1988 and 1990* (Washington, DC: National Center for Education Statistics, U.S. Government Printing Office, 1992).

[49] Richard C. Anderson, Paul T. Wilson, and Linda G. Fielding "Growth in Reading and How Children Spend Their Time Outside of School," *Reading Research Quarterly*, 23, 285-303, 1988.

Vincent Greaney, "Factors Related to Amount and Type of Leisure-Time Reading," *Reading Research Quarterly*, 15, 337-357, 1980.

- Less frequent leisure reading was reported by eighth and twelfth graders than by fourth graders. At both grades 8 and 12, fewer than one-fourth of the students reported such reading daily and an additional 28 percent reported such reading weekly. Twenty-four to 25 percent reported never or hardly ever reading for fun on their own time.

The results for fourth graders participating in the Trial State Assessment Program are presented in TABLE 6.2. Although the differences in average reading proficiency are not statistically significant from reporting category to category for each of the participating jurisdictions, the national pattern is clearly reflected in these data. In general, students who reported more frequent leisure reading had higher average reading proficiency. In particular, those who reported never or hardly ever engaging in such reading had significantly lower average proficiency than students who reported reading for fun on at least a weekly basis.

TABLE 6.1 **Students' Reports on Frequency of Reading for Fun on Their Own Time, Grades 4, 8, and 12, 1992 Reading Assessment**

	Almost Every Day		Once or Twice a Week		Once or Twice a Month		Never or Hardly Ever	
	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency
Grade 4	44(0.9)	225(1.2)	32(0.8)	220(1.2)	12(0.4)	211(1.6)	13(0.5)	200(1.9)
Grade 8	22(0.5)	277(1.1)	28(0.6)	263(1.0)	25(0.5)	258(1.2)	25(0.7)	246(1.4)
Grade 12	23(0.6)	303(0.9)	28(0.7)	295(0.7)	26(0.5)	289(0.9)	24(0.6)	277(1.0)

The standard errors of the estimated percentages and proficiencies appear in parentheses. It can be said with 95 percent certainty that for each population of interest, the value for the whole population is within plus or minus two standard errors of the estimate for the sample. In comparing two estimates, one must use the standard error of the difference (see Appendix for details). Percentages may not total 100 percent due to rounding error.

SOURCE: National Assessment of Educational Progress (NAEP), 1992 Reading Assessment.

TABLE 6.2 | Students' Reports on Frequency of Reading for Fun on Their Own Time, Grade 4, 1992 Reading Assessment

PUBLIC SCHOOLS	Almost Every Day		Once or Twice a Week		Once or Twice a Month		Never or Hardly Ever	
	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency
NATION	43 (1.0)	223 (1.3)	32 (0.9)	218 (1.3)	12 (0.5)	209 (1.8)	13 (0.6)	199 (2.0)
Northeast	43 (2.6)	231 (4.5)	35 (2.4)	220 (3.8)	12 (1.1)	211 (5.3)	10 (1.2)	200 (4.8)
Southeast	40 (1.8)	216 (3.0)	32 (1.6)	214 (2.8)	14 (0.8)	208 (3.6)	14 (1.6)	201 (3.4)
Central	42 (1.7)	227 (1.8)	33 (1.6)	220 (2.3)	11 (0.9)	211 (3.7)	14 (1.2)	204 (3.5)
West	48 (2.2)	219 (2.0)	28 (2.0)	218 (2.2)	11 (1.0)	206 (2.9)	14 (1.0)	191 (4.0)
STATES								
Alabama	38 (1.2)	212 (2.4)	34 (1.1)	210 (1.9)	12 (0.7)	205 (2.6)	16 (0.7)	197 (2.2)
Arizona	40 (1.1)	217 (1.4)	33 (1.0)	211 (1.7)	11 (0.7)	203 (2.3)	16 (0.9)	199 (2.1)
Arkansas	39 (1.2)	217 (1.9)	34 (1.0)	213 (1.3)	12 (0.8)	206 (2.7)	16 (0.8)	199 (2.1)
California	45 (1.1)	212 (2.2)	32 (1.0)	200 (2.5)	11 (0.7)	196 (3.2)	12 (0.8)	190 (3.3)
Colorado	44 (1.0)	225 (1.3)	34 (0.9)	216 (1.4)	11 (0.6)	215 (2.2)	11 (0.6)	202 (1.9)
Connecticut	46 (1.1)	230 (1.7)	32 (0.8)	220 (1.6)	12 (0.7)	219 (2.5)	11 (0.6)	207 (2.7)
Delaware*	41 (1.2)	220 (1.4)	33 (1.1)	215 (1.6)	11 (0.8)	210 (2.7)	14 (0.8)	197 (2.1)
Dist. Columbia	44 (1.0)	192 (1.2)	37 (0.9)	190 (1.2)	9 (0.6)	184 (2.9)	10 (0.7)	178 (2.8)
Florida	38 (1.2)	214 (1.6)	34 (1.1)	212 (1.9)	13 (0.7)	206 (2.0)	15 (0.9)	195 (2.3)
Georgia	44 (1.4)	219 (1.9)	32 (1.0)	215 (1.8)	11 (0.7)	206 (2.9)	13 (0.7)	198 (2.4)
Hawaii	42 (1.2)	210 (2.0)	35 (1.1)	203 (2.0)	11 (0.7)	202 (2.9)	12 (0.6)	192 (2.7)
Idaho	45 (1.2)	226 (1.3)	31 (0.8)	220 (1.1)	11 (0.8)	217 (1.9)	13 (0.7)	205 (2.4)
Indiana	41 (1.3)	229 (1.7)	32 (1.1)	222 (1.3)	14 (0.6)	221 (2.3)	14 (0.7)	206 (2.1)
Iowa	50 (1.2)	233 (1.3)	30 (1.0)	225 (1.3)	10 (0.6)	218 (2.0)	10 (0.7)	210 (2.1)
Kentucky	38 (1.1)	219 (1.9)	33 (0.9)	215 (1.4)	13 (0.8)	214 (2.9)	17 (0.8)	201 (2.0)
Louisiana	38 (1.1)	208 (1.4)	35 (0.9)	206 (1.5)	11 (0.6)	206 (2.3)	15 (0.9)	194 (2.5)
Maine*	43 (1.5)	234 (1.4)	33 (1.2)	227 (1.3)	12 (0.7)	224 (1.9)	11 (1.0)	213 (2.1)
Maryland	42 (1.1)	221 (1.9)	35 (1.0)	211 (1.7)	12 (0.6)	207 (2.5)	11 (0.7)	194 (3.3)
Massachusetts	46 (1.2)	234 (1.2)	34 (1.1)	225 (1.0)	12 (0.7)	223 (2.4)	9 (0.7)	211 (2.2)
Michigan	44 (1.2)	224 (1.9)	34 (1.1)	216 (1.6)	12 (0.7)	209 (2.4)	10 (0.6)	207 (3.0)
Minnesota	47 (1.3)	230 (1.2)	33 (1.1)	221 (1.5)	10 (0.6)	212 (2.9)	10 (0.8)	204 (2.7)
Mississippi	41 (1.1)	202 (1.7)	32 (0.9)	202 (2.0)	10 (0.6)	200 (2.5)	17 (1.0)	192 (2.3)
Missouri	43 (1.0)	227 (1.7)	32 (0.9)	222 (1.5)	11 (0.7)	220 (2.6)	13 (0.8)	205 (1.9)
Nebraska*	45 (1.1)	228 (1.5)	32 (0.9)	223 (1.4)	11 (0.8)	221 (2.1)	12 (0.8)	203 (2.7)
New Hampshire*	48 (1.6)	236 (1.2)	31 (1.2)	228 (1.5)	11 (0.7)	224 (2.6)	10 (0.8)	210 (2.6)
New Jersey*	39 (1.4)	232 (1.8)	36 (0.9)	225 (1.6)	14 (0.8)	220 (2.0)	11 (1.0)	203 (2.9)
New Mexico	41 (1.5)	218 (1.6)	33 (1.0)	212 (2.4)	11 (0.6)	214 (2.8)	15 (0.8)	194 (2.8)
New York*	44 (1.1)	221 (1.9)	34 (1.0)	216 (1.7)	13 (0.8)	214 (1.9)	10 (0.6)	201 (3.3)
North Carolina	46 (1.3)	219 (1.5)	31 (1.0)	212 (1.4)	10 (0.6)	207 (3.2)	13 (0.7)	198 (2.5)
North Dakota	43 (1.3)	234 (1.4)	33 (1.0)	226 (1.3)	13 (0.7)	222 (2.2)	11 (0.8)	212 (2.5)
Ohio	41 (1.2)	226 (1.6)	35 (1.0)	217 (1.7)	12 (0.7)	214 (2.6)	12 (0.7)	204 (2.8)
Oklahoma	40 (1.1)	225 (1.3)	32 (1.0)	225 (1.9)	12 (0.7)	221 (2.1)	16 (0.9)	207 (2.0)
Pennsylvania	43 (1.0)	227 (1.8)	35 (1.0)	221 (1.3)	12 (0.6)	221 (2.5)	9 (0.6)	206 (3.0)
Rhode Island	47 (1.3)	223 (2.4)	32 (1.1)	217 (1.7)	11 (0.8)	216 (2.7)	10 (0.7)	197 (3.3)
South Carolina	42 (1.1)	216 (1.7)	34 (0.9)	211 (1.6)	11 (0.6)	210 (2.6)	14 (0.8)	196 (2.0)
Tennessee	38 (1.1)	219 (1.9)	37 (1.1)	213 (1.7)	13 (0.8)	208 (2.8)	12 (0.9)	201 (2.5)
Texas	43 (1.1)	218 (2.0)	32 (1.1)	215 (1.7)	10 (0.6)	212 (2.6)	15 (0.9)	202 (2.0)
Utah	46 (1.1)	228 (1.4)	30 (0.7)	222 (1.5)	10 (0.7)	214 (2.2)	13 (0.7)	207 (2.1)
Virginia	46 (1.2)	228 (1.6)	31 (1.0)	223 (1.9)	12 (0.7)	216 (2.4)	11 (0.8)	204 (2.3)
West Virginia	38 (1.1)	224 (1.9)	35 (1.0)	218 (1.5)	12 (0.7)	212 (2.1)	16 (0.9)	201 (1.9)
Wisconsin	46 (1.1)	233 (1.3)	34 (1.0)	222 (1.4)	10 (0.6)	217 (2.4)	10 (0.5)	206 (2.8)
Wyoming	49 (1.1)	230 (1.1)	30 (0.9)	224 (1.8)	9 (0.6)	217 (2.0)	12 (0.6)	207 (2.1)
TERRITORY								
Guam	39 (1.0)	187 (1.8)	35 (1.0)	186 (1.7)	10 (0.6)	175 (3.2)	16 (0.8)	174 (3.4)

*Did not satisfy one or more of the guidelines for school sample participation rates (see Appendix B for details).

The standard errors of the estimated percentages and proficiencies appear in parentheses. It can be said with 95 percent certainty that for each population of interest, the value for the whole population is within plus or minus two standard errors of the estimate for the sample. In comparing two estimates, one must use the standard error of the difference (see Appendix for details). Percentages may not total 100 percent due to rounding error.

SOURCE: National Assessment of Educational Progress (NAEP), 1992 Reading Assessment.

Discussing Reading With Friends and Family

Some reading research has explored the cultural influences on achievement and found literacy to be interactive, familial, and social in nature. That is, some home settings provide dynamic, literate environments where writing and reading are an ongoing and important part of daily life.[50] Susan Hynds argued that reading includes social as well as cognitive competence, and that readers develop the will to read through participation in supportive communities of readers.[51]

TABLE 6.3 contains the results to a question about how often students discuss reading with their friends or family.

- At grade 4, 26 percent of the students reported discussing their reading with friends or family on a daily basis and another 36 percent reported doing so at least weekly. Twenty-three percent reported that they never or hardly ever engaged in such discussion.

- At grade 8, 13 percent of the students reported daily discussion and an additional 28 percent reported weekly discussion. Nearly one-third (32 percent) reported never or hardly ever participating in such discussion.

- At grade 12, 18 percent of the students reported daily discussion and an additional 37 percent reported weekly discussion. Eighteen percent reported such discussion occurred rarely, if at all.

- A majority of the fourth and twelfth graders -- 62 and 55 percent, respectively -- reported at least weekly discussion about their reading with friends and family. This compares with only 41 percent of the eighth graders, a difference that may in some way simply reflect young adolescents' attempt to establish independence from the home.[52]

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[50] W.H. Teale, "Home Background and Literacy Development," in W.H. Teale and E. Sulzby, editors, *Emergent Literacy: Writing and Reading* (Norwood, NJ: Ablex, 1986).

[51] Susan Hynds, "Reading as a Social Event: Comprehension and Response in the Text, Classroom, and World," in Deanne Bogdan and Stanley B. Straw, editors, *Beyond Communication, Reading Comprehension and Criticism* (Portsmouth, NH: Boyton/Cook Publishers, Heinemann, 1990).

[52] Task Force on Education of Young Adolescents, *Turning Points: Preparing American Youth for the 21st Century* (Washington, DC: Carnegie Council on Adolescent Development, Carnegie Corporation of New York, 1989).

The state-by-state results for fourth graders are presented in TABLE 6.4. The data mirror the national findings for that grade, showing that for each jurisdiction a majority of the students reported at least weekly discussion about their reading with friends or family.

TABLE 6.3 Students' Reports on Frequency of Discussing Reading with Friends or Family, Grades 4, 8, and 12, 1992 Reading Assessment

	Almost Every Day		Once or Twice a Week		Once or Twice a Month		Never or Hardly Ever	
	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency
Grade 4	26(0.6)	216(1.5)	36(0.9)	225(1.1)	15(0.6)	220(1.7)	23(0.8)	210(1.4)
Grade 8	13(0.6)	263(1.3)	28(0.5)	269(1.1)	26(0.4)	264(1.2)	32(0.7)	249(1.2)
Grade 12	18(0.5)	297(1.1)	37(0.5)	298(0.7)	27(0.5)	289(0.8)	18(0.4)	276(1.0)

The standard errors of the estimated percentages and proficiencies appear in parentheses. It can be said with 95 percent certainty that for each population of interest, the value for the whole population is within plus or minus two standard errors of the estimate for the sample. In comparing two estimates, one must use the standard error of the difference (see Appendix for details). Percentages may not total 100 percent due to rounding error.

SOURCE: National Assessment of Educational Progress (NAEP), 1992 Reading Assessment.

TABLE 6.4 Students' Reports on Frequency of Discussing Readings with Friends or Family, Grade 4, 1992 Reading Assessment

PUBLIC SCHOOLS	Almost Every Day		Once or Twice a Week		Once or Twice a Month		Never or Hardly Ever	
	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency
NATION	27 (0.7)	214 (1.5)	35 (1.0)	224 (1.2)	15 (0.7)	217 (1.9)	24 (0.9)	208 (1.5)
Northeast	28 (1.7)	220 (5.1)	35 (1.9)	230 (4.1)	16 (1.6)	222 (3.6)	21 (2.3)	210 (5.1)
Southeast	30 (1.2)	207 (2.6)	33 (2.2)	219 (3.6)	12 (1.2)	218 (5.0)	24 (1.4)	205 (2.6)
Central	24 (1.2)	219 (2.4)	36 (2.5)	226 (2.0)	15 (1.3)	221 (2.5)	26 (2.4)	210 (2.4)
West	26 (1.1)	212 (2.0)	36 (1.4)	221 (2.1)	15 (1.2)	210 (3.5)	23 (1.1)	207 (2.4)
STATES								
Alabama	30 (0.9)	206 (2.0)	31 (0.8)	213 (2.0)	14 (0.8)	211 (2.7)	24 (0.9)	203 (2.1)
Arizona	28 (1.2)	207 (1.9)	33 (1.1)	215 (1.5)	15 (0.7)	215 (2.4)	25 (1.0)	205 (1.8)
Arkansas	31 (1.1)	208 (2.1)	31 (0.9)	218 (1.6)	14 (0.7)	215 (2.1)	24 (1.0)	208 (1.8)
California	29 (1.1)	201 (2.5)	36 (1.3)	212 (2.2)	14 (0.8)	200 (3.5)	21 (1.0)	197 (2.6)
Colorado	28 (0.8)	216 (1.7)	37 (0.9)	224 (1.3)	16 (0.7)	218 (1.7)	19 (0.8)	208 (1.8)
Connecticut	26 (0.9)	219 (2.5)	36 (0.8)	229 (1.5)	17 (0.7)	227 (1.8)	22 (0.8)	216 (1.8)
Delaware*	29 (1.2)	209 (1.9)	32 (1.2)	223 (1.6)	16 (0.9)	217 (2.7)	22 (1.1)	207 (1.8)
Dist. Columbia	40 (1.0)	189 (1.3)	31 (1.0)	195 (1.6)	12 (0.6)	190 (2.5)	17 (0.8)	179 (2.0)
Florida	30 (0.9)	207 (1.7)	32 (1.0)	216 (1.6)	14 (0.6)	211 (2.6)	24 (0.9)	204 (1.9)
Georgia	31 (0.9)	209 (1.9)	35 (1.1)	220 (1.7)	14 (0.7)	219 (2.6)	20 (0.9)	205 (1.9)
Hawaii	27 (1.2)	199 (2.1)	34 (1.0)	210 (2.2)	16 (0.8)	205 (2.5)	22 (1.0)	203 (2.0)
Idaho	24 (1.1)	221 (1.5)	34 (1.0)	227 (1.4)	18 (0.8)	222 (2.0)	24 (0.9)	211 (1.4)
Indiana	26 (1.0)	220 (1.8)	35 (1.0)	228 (2.0)	17 (0.8)	223 (2.0)	23 (1.0)	216 (1.9)
Iowa	24 (0.9)	226 (1.4)	38 (0.9)	233 (1.3)	16 (0.7)	228 (2.0)	22 (1.0)	217 (1.5)
Kentucky	28 (0.9)	212 (1.4)	33 (0.9)	221 (1.7)	16 (0.7)	216 (2.3)	23 (0.9)	205 (1.9)
Louisiana	34 (1.0)	202 (1.5)	29 (0.9)	210 (1.5)	15 (0.7)	208 (2.0)	22 (0.7)	200 (1.8)
Maine*	23 (1.1)	227 (1.6)	35 (1.3)	233 (1.6)	18 (1.1)	232 (1.9)	24 (1.4)	221 (1.3)
Maryland	27 (1.0)	208 (1.9)	34 (1.0)	219 (1.8)	16 (0.8)	220 (2.0)	23 (0.9)	207 (2.7)
Massachusetts	25 (1.1)	226 (1.5)	38 (0.9)	234 (1.3)	16 (0.9)	226 (1.9)	21 (0.9)	220 (1.7)
Michigan	27 (1.2)	215 (2.1)	35 (1.2)	223 (1.5)	16 (0.8)	218 (2.9)	22 (1.0)	212 (2.4)
Minnesota	24 (1.0)	220 (1.8)	36 (1.1)	229 (1.4)	18 (0.8)	222 (2.7)	23 (1.0)	215 (1.9)
Mississippi	36 (1.0)	195 (1.7)	29 (0.8)	208 (1.7)	12 (0.6)	200 (3.1)	23 (1.0)	198 (2.0)
Missouri	27 (1.1)	219 (1.6)	34 (0.9)	226 (1.8)	16 (0.8)	223 (2.2)	23 (0.9)	216 (1.6)
Nebraska*	27 (1.1)	222 (1.4)	36 (1.1)	230 (1.5)	17 (1.0)	223 (2.4)	21 (0.9)	211 (2.3)
New Hampshire*	25 (1.1)	229 (2.1)	38 (1.1)	234 (1.3)	16 (0.8)	229 (2.4)	21 (1.1)	221 (1.5)
New Jersey*	26 (1.0)	221 (1.7)	37 (1.1)	230 (1.9)	16 (0.8)	229 (2.4)	20 (1.0)	217 (2.3)
New Mexico	29 (1.1)	209 (2.2)	31 (0.9)	219 (1.8)	15 (0.7)	213 (2.6)	25 (1.1)	208 (2.4)
New York*	31 (1.2)	213 (1.8)	35 (1.2)	222 (2.2)	15 (0.7)	214 (3.0)	18 (0.9)	212 (2.1)
North Carolina	31 (0.9)	208 (1.6)	35 (0.9)	221 (1.7)	13 (0.7)	211 (2.8)	21 (1.0)	210 (1.9)
North Dakota	22 (0.8)	225 (1.8)	37 (1.0)	233 (1.5)	20 (1.0)	227 (1.9)	22 (1.2)	220 (2.0)
Ohio	28 (1.1)	217 (2.0)	35 (0.9)	224 (1.5)	14 (0.8)	221 (2.8)	23 (1.1)	212 (1.8)
Oklahoma	27 (1.1)	219 (1.8)	31 (1.1)	227 (1.6)	15 (0.7)	224 (1.9)	26 (1.1)	217 (1.8)
Pennsylvania	28 (1.0)	218 (2.0)	37 (1.1)	229 (1.4)	15 (0.9)	226 (2.1)	20 (0.8)	212 (1.8)
Rhode Island	26 (1.1)	215 (1.8)	36 (1.2)	223 (2.7)	15 (0.8)	218 (2.4)	23 (1.2)	214 (2.7)
South Carolina	31 (1.1)	208 (1.8)	33 (1.0)	217 (1.5)	14 (0.8)	214 (2.5)	22 (0.9)	204 (2.0)
Tennessee	30 (1.0)	211 (1.8)	36 (1.2)	219 (1.7)	14 (0.8)	215 (2.5)	20 (0.9)	205 (1.8)
Texas	29 (1.0)	208 (2.0)	34 (1.2)	222 (1.9)	14 (0.8)	215 (2.5)	24 (1.0)	210 (1.9)
Utah	23 (0.8)	220 (1.7)	36 (0.8)	227 (1.5)	18 (0.9)	225 (1.7)	23 (0.9)	213 (1.7)
Virginia	27 (0.8)	219 (1.7)	35 (0.9)	227 (1.7)	16 (0.8)	226 (1.9)	22 (1.0)	217 (1.8)
West Virginia	27 (0.9)	215 (1.8)	34 (1.1)	223 (1.8)	14 (0.7)	221 (2.1)	24 (1.1)	208 (1.5)
Wisconsin	22 (0.7)	224 (1.6)	38 (0.9)	231 (1.1)	17 (0.9)	227 (1.7)	23 (0.9)	215 (1.9)
Wyoming	27 (1.1)	224 (1.6)	35 (0.9)	229 (1.3)	15 (0.7)	228 (1.6)	23 (0.7)	216 (1.8)
TERRITORY								
Guam	29 (1.0)	181 (2.1)	32 (1.1)	188 (2.3)	13 (0.8)	179 (3.5)	26 (1.1)	183 (2.0)

*Did not satisfy one or more of the guidelines for school sample participation rates (see Appendix B for details).

The standard errors of the estimated percentages and proficiencies appear in parentheses. It can be said with 95 percent certainty that for each population of interest, the value for the whole population is within plus or minus two standard errors of the estimate for the sample. In comparing two estimates, one must use the standard error of the difference (see Appendix for details). Percentages may not total 100 percent due to rounding error.

SOURCE: National Assessment of Educational Progress (NAEP), 1992 Reading Assessment.

Television Watching

Common sense suggests that without television, students would have additional time to read books (whether they would actually do more reading is less clear, because some children who watch considerable amounts of television are avid readers and some who watch no television do not read).[53] Nevertheless, studies indicate that children spend more time watching television than they do in academic pursuits, and that excessive viewing is associated with lower school achievement. In 1982, the National Institute for Mental Health found that the average high school graduate had spent 50 percent more time viewing television than attending school.[54] In the 1988 study conducted by Anderson, Wilson, and Fielding examining how fifth-grade students spent their time outside of school, the fifth graders reported reading 19 minutes and watching 131 minutes of television, on average, per day. Reviews of the research, including NAEP results, indicate that when viewing reaches about three hours a day, it can have a negative influence on reading achievement.[55] Finally, research indicates that similar to the home impact on reading behaviors, children's television viewing patterns also tend to follow the example set by their parents.[56]

The 1992 NAEP data for television viewing are presented in TABLE 6.5. The results reveal that our nation's fourth, eighth, and twelfth graders reported watching considerable amounts of television each day.

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[53] Susan B. Neuman, "The Home Environment and Fifth-Grade Students' Leisure Reading," *Elementary School Journal*, 83, 333-343, 1986.

[54] *Television and Behavior: Ten Years of Scientific Progress and Implications for the Eighties* (Washington, DC: National Institute of Mental Health, 1982).

[55] Richard C. Anderson, Paul T. Wilson, and Linda G. Fielding, "Growth in Reading and How Children Spend Their Time Outside of School," *Reading Research Quarterly*, 23, 283-305, 1988.

[56] J.W.J. Beentjes, and T.H.A. Van der Voort, "Television's Impact on Children's Reading Skills: A Review of the Research," *Reading Research Quarterly*, 23, 389-413, 1988.

Susan B. Neuman, "Television, Reading, and the Home Environment," *Reading Research and Instruction*, 25, 173-183, 1986.

- At grade 4, there was virtually no difference in students' average reading proficiency for those students reporting as much as three hours of television viewing per day. However, those watching four to five hours had lower average proficiency than students who reported fewer hours of viewing, and students watching six hours or more per day had the lowest average reading proficiency.

- At grade 8, the drop in average proficiency occurred at three hours of viewing each night. Again, those students watching 6 hours or more of television per night had significantly lower average reading proficiency than their counterparts who watched less television.

- At grade 12, there was a significant decrease in average reading proficiency for students who reported watching more than one hour per night.

- Sixty-one percent of the fourth graders, 65 percent of the eighth graders, and 47 percent of the twelfth graders reported watching three or more hours of television per day.

- Twenty percent of the fourth graders, 14 percent of the eighth graders, and 6 percent of the twelfth graders reported watching six or more hours of television per day.

The corresponding results for television watching for the Trial State Assessment Program are found in TABLE 6.6. Reflecting the national pattern, fourth graders across the participating jurisdictions reported substantial amounts of television viewing. However, there was considerable variation. For example, the percentages of students who reported watching six or more hours ranged from an estimated 11 percent in Utah to an estimated 36 percent in the District of Columbia. In each jurisdiction, watching 6 or more hours of television per night was associated with the lowest average reading proficiency.

TABLE 6.5 Students' Reports on Amount of Time Spent Watching Television Each Day, Grades 4, 8, and 12

	Grade 4		Grade 8		Grade 12	
	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency
Six Hours or More	20(0.7)	197(1.6)	14(0.5)	241(1.6)	6(0.3)	269(1.8)
Four to Five Hours	22(0.8)	218(1.3)	27(0.5)	258(1.2)	20(0.4)	283(0.9)
Three Hours	19(0.6)	225(1.2)	24(0.5)	262(1.3)	21(0.4)	290(1.2)
Two Hours	21(0.7)	225(1.4)	22(0.5)	268(1.2)	27(0.5)	294(0.8)
One Hour or Less	19(0.8)	223(1.6)	13(0.5)	271(1.5)	27(0.8)	300(1.0)

The standard errors of the estimated percentages and proficiencies appear in parentheses. It can be said with 95 percent certainty that for each population of interest, the value for the whole population is within plus or minus two standard errors of the estimate for the sample. Percentages may not total 100 percent due to rounding error.

SOURCE: National Assessment of Educational Progress (NAEP), 1992 Reading Assessment.

TABLE 6.6 | **Students' Reports on Amount of Time Spent Watching Television Each Day, Grade 4, 1992 Reading Assessment**

PUBLIC SCHOOLS	Six Hours or More		Four to Five Hours		Three Hours		Two Hours		One Hour or Less	
	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency
NATION	21 (0.8)	198 (1.7)	22 (0.9)	216 (1.5)	19 (0.7)	223 (1.3)	21 (0.9)	223 (1.6)	18 (0.8)	220 (1.9)
Northeast	20 (2.9)	201 (4.2)	22 (2.1)	221 (3.8)	18 (1.5)	232 (4.4)	20 (1.6)	227 (5.2)	19 (3.0)	229 (6.6)
Southeast	26 (1.9)	198 (4.4)	20 (1.3)	214 (4.5)	17 (1.5)	218 (2.6)	19 (0.8)	217 (3.4)	18 (1.6)	217 (3.1)
Central	17 (1.0)	199 (2.4)	23 (0.7)	215 (3.1)	22 (1.4)	226 (1.6)	22 (1.9)	228 (2.3)	16 (1.0)	224 (3.6)
West	20 (1.3)	197 (3.4)	21 (2.2)	215 (1.7)	18 (1.4)	218 (2.4)	21 (2.0)	221 (3.1)	20 (1.4)	214 (2.8)
STATES										
Alabama	26 (1.2)	198 (2.3)	25 (1.0)	209 (2.1)	17 (0.9)	216 (2.3)	17 (0.8)	215 (2.2)	16 (0.9)	210 (2.6)
Arizona	18 (1.0)	201 (2.0)	20 (0.8)	210 (2.1)	19 (0.7)	214 (2.0)	21 (0.8)	217 (1.7)	22 (0.9)	210 (2.1)
Arkansas	28 (1.5)	200 (1.7)	24 (1.0)	217 (1.5)	18 (0.9)	220 (1.9)	15 (0.7)	217 (2.8)	16 (0.9)	212 (2.8)
California	20 (1.3)	184 (2.8)	20 (1.1)	205 (2.8)	18 (0.9)	208 (2.2)	21 (0.9)	208 (2.7)	22 (1.3)	210 (2.7)
Colorado	15 (1.0)	203 (2.4)	21 (1.0)	218 (1.5)	17 (0.7)	220 (1.7)	23 (0.9)	223 (1.8)	24 (1.0)	220 (1.7)
Connecticut	19 (1.2)	204 (2.2)	23 (1.1)	219 (2.2)	18 (0.8)	226 (1.8)	21 (0.9)	232 (1.6)	19 (1.1)	233 (1.9)
Delaware*	24 (1.2)	198 (1.8)	23 (0.8)	216 (1.4)	15 (0.8)	216 (1.7)	21 (0.8)	225 (2.2)	16 (0.8)	218 (2.1)
Dist. Columbia	36 (0.9)	184 (1.1)	24 (0.8)	190 (1.7)	13 (0.7)	190 (2.3)	12 (0.7)	193 (2.6)	15 (0.7)	193 (2.2)
Florida	25 (1.3)	196 (1.9)	22 (0.9)	210 (1.8)	18 (0.8)	214 (2.2)	17 (0.9)	220 (2.2)	17 (0.9)	212 (2.1)
Georgia	25 (1.4)	200 (1.9)	22 (0.9)	216 (2.1)	18 (0.8)	220 (2.4)	19 (0.8)	220 (2.4)	17 (0.9)	215 (2.6)
Hawaii	24 (1.2)	193 (2.2)	19 (0.6)	208 (1.7)	16 (0.8)	210 (2.6)	18 (1.0)	208 (2.8)	24 (1.1)	205 (2.5)
Idaho	14 (0.9)	206 (2.3)	21 (0.9)	219 (1.2)	18 (0.8)	223 (1.8)	23 (0.9)	225 (1.2)	23 (1.0)	224 (1.5)
Indiana	20 (1.4)	210 (1.6)	26 (1.0)	223 (1.5)	19 (0.8)	227 (1.9)	19 (1.0)	228 (1.7)	16 (1.0)	225 (2.3)
Iowa	15 (1.1)	212 (2.3)	26 (0.8)	224 (1.5)	20 (0.9)	231 (1.5)	23 (0.9)	234 (1.4)	16 (0.9)	229 (2.0)
Kentucky	25 (1.1)	203 (2.2)	25 (0.8)	218 (1.6)	19 (0.8)	219 (2.0)	17 (0.9)	217 (2.1)	14 (0.8)	213 (2.7)
Louisiana	28 (1.3)	195 (1.9)	24 (1.0)	207 (1.7)	17 (0.8)	210 (2.2)	16 (0.7)	209 (1.6)	15 (0.7)	209 (1.7)
Maine*	14 (1.1)	215 (1.8)	22 (1.1)	226 (1.5)	20 (1.0)	233 (1.9)	22 (1.1)	230 (1.9)	21 (1.3)	232 (2.4)
Maryland	25 (1.3)	194 (2.5)	23 (1.0)	213 (2.0)	18 (0.7)	220 (1.8)	17 (0.9)	223 (2.2)	17 (0.9)	220 (2.2)
Massachusetts	16 (0.9)	211 (2.3)	23 (0.9)	226 (1.5)	20 (0.8)	230 (1.7)	21 (1.1)	234 (1.4)	20 (0.9)	234 (1.9)
Michigan	20 (1.2)	198 (2.4)	23 (1.1)	217 (1.7)	19 (0.7)	222 (1.7)	20 (1.1)	225 (2.1)	18 (1.2)	225 (2.8)
Minnesota	16 (1.1)	204 (2.3)	23 (0.9)	220 (2.0)	21 (0.9)	228 (2.0)	22 (1.0)	229 (1.5)	18 (0.9)	227 (2.0)
Mississippi	30 (1.4)	192 (1.8)	26 (0.8)	202 (2.0)	14 (0.8)	208 (2.3)	15 (0.8)	209 (2.3)	16 (0.8)	195 (2.2)
Missouri	19 (1.3)	208 (2.0)	27 (1.0)	222 (1.7)	18 (1.0)	227 (2.3)	19 (0.8)	229 (1.6)	16 (0.9)	222 (2.3)
Nebraska*	15 (0.9)	204 (2.1)	23 (1.0)	224 (1.9)	21 (0.9)	228 (2.1)	24 (1.1)	227 (1.6)	17 (0.9)	222 (1.7)
New Hampshire*	14 (0.9)	216 (2.6)	22 (0.9)	229 (2.0)	20 (0.9)	228 (1.7)	23 (0.9)	233 (1.6)	21 (1.0)	235 (1.6)
New Jersey*	23 (1.3)	205 (2.3)	24 (1.1)	225 (1.7)	19 (0.9)	229 (2.2)	18 (0.9)	233 (2.0)	17 (1.1)	235 (2.4)
New Mexico	18 (1.2)	196 (2.2)	23 (1.1)	212 (2.3)	17 (1.0)	217 (2.7)	21 (1.0)	220 (2.0)	22 (1.2)	211 (2.0)
New York*	23 (1.1)	202 (3.0)	24 (1.1)	214 (1.7)	17 (0.8)	224 (2.0)	20 (1.0)	223 (1.7)	16 (0.8)	221 (3.5)
North Carolina	24 (1.2)	197 (1.7)	22 (0.8)	214 (1.7)	17 (0.7)	218 (2.1)	19 (0.8)	222 (2.3)	17 (0.9)	217 (2.2)
North Dakota	12 (0.8)	211 (1.8)	22 (1.0)	226 (1.9)	2[illegible] (1.1)	231 (1.8)	25 (1.1)	231 (1.4)	19 (1.1)	229 (2.3)
Ohio	21 (1.3)	204 (1.9)	25 (0.8)	220 (1.8)	19 (0.7)	225 (1.7)	20 (0.9)	224 (2.0)	15 (0.8)	222 (2.4)
Oklahoma	20 (1.1)	211 (1.9)	25 (1.0)	224 (1.3)	20 (0.8)	227 (2.1)	18 (0.8)	227 (1.9)	17 (0.9)	220 (2.0)
Pennsylvania	17 (1.0)	202 (1.5)	25 (1.0)	221 (1.2)	20 (0.8)	228 (1.9)	22 (1.0)	230 (1.9)	17 (0.8)	227 (2.7)
Rhode Island	18 (1.2)	203 (3.4)	23 (1.0)	217 (2.1)	20 (0.8)	222 (2.2)	19 (0.9)	223 (1.9)	19 (0.9)	223 (3.1)
South Carolina	27 (1.3)	198 (1.8)	23 (1.0)	212 (1.9)	17 (0.7)	215 (2.1)	16 (1.0)	222 (2.6)	16 (0.8)	215 (2.0)
Tennessee	22 (0.9)	199 (2.0)	24 (1.0)	218 (2.2)	19 (0.7)	219 (1.9)	18 (0.9)	218 (2.3)	17 (0.9)	214 (1.9)
Texas	22 (1.1)	200 (2.1)	24 (0.9)	213 (2.0)	17 (0.7)	220 (2.5)	19 (0.9)	222 (2.1)	18 (0.9)	218 (2.7)
Utah	11 (0.9)	209 (2.4)	18 (0.9)	220 (1.9)	19 (0.8)	225 (1.7)	24 (0.9)	224 (1.9)	28 (1.1)	224 (1.6)
Virginia	25 (1.3)	205 (2.2)	23 (1.0)	223 (1.5)	16 (0.8)	228 (2.3)	19 (1.0)	232 (2.1)	17 (0.8)	230 (2.5)
West Virginia	22 (1.2)	204 (2.0)	26 (1.0)	218 (1.8)	20 (0.9)	223 (1.8)	17 (0.9)	223 (2.0)	15 (0.8)	219 (2.4)
Wisconsin	16 (1.0)	211 (2.1)	24 (0.8)	225 (1.4)	19 (0.9)	228 (1.9)	24 (1.0)	230 (1.5)	17 (0.9)	227 (1.9)
Wyoming	14 (0.8)	210 (2.4)	20 (0.7)	223 (1.8)	19 (0.9)	227 (1.6)	21 (0.9)	229 (1.5)	26 (1.2)	227 (1.8)
TERRITORY										
Guam	20 (0.9)	176 (2.2)	17 (0.7)	190 (2.0)	13 (0.7)	193 (2.9)	19 (1.0)	184 (2.0)	31 (1.1)	178 (2.2)

*Did not satisfy one or more of the guidelines for school sample participation rates (see Appendix B for details).

The standard errors of the estimated percentages and proficiencies appear in parentheses. It can be said with 95 percent certainty that for each population of interest, the value for the whole population is within plus or minus two standard errors of the estimate for the sample. In comparing two estimates, one must use the standard error of the difference (see Appendix for details). Percentages may not total 100 percent due to rounding error.

SOURCE: National Assessment of Educational Progress (NAEP), 1992 Reading Assessment.

Summary

According to their own reports, students devote considerably more of their leisure time to watching television than they do to reading. This occurs despite considerable evidence in the NAEP data as well as from countless research studies showing that reading outside of school is related to higher reading achievement and that watching substantial amounts of television is not. In fact, watching more television is negatively associated with reading achievement.

At all three grades, students who reported more leisure reading had higher reading proficiency. Forty-four percent of the fourth graders and fewer of the eighth and twelfth graders -- from 22 to 23 percent -- reported reading for fun outside of school on a daily basis. Thirteen percent of the fourth graders and from 24 to 25 percent of the eighth and twelfth graders reported that they never or hardly ever read for fun on their own time.

More than a majority of the fourth (62 percent) and twelfth graders (55 percent) reported discussing their reading with friends or family at least weekly, but only 41 percent of the eighth graders did. Twenty-three percent of the fourth graders, 32 percent of the eighth graders, and 18 percent of the twelfth graders said they never engaged in such discussion. At all three grades, students who reported at least weekly discussion about their reading with friends or family had higher average reading proficiency than did students who reported little or no such discussion.

For students at grade 4, lower average reading proficiency was noted for students who reported four or more hours of television viewing each night. For eighth graders, proficiency decreased with three or more hours watched each night. For twelfth graders, there was a significant decrease in proficiency after one hour per night. At all three grades, students who watched six or more hours of television each day had substantially lower average reading proficiency than those who watched less. Twenty percent of the fourth graders, 14 percent of the eighth graders, and 6 percent of the twelfth graders reported watching six or more hours of television on a daily basis.

The data from the Trial State Assessment Program at grade 4 paralleled the national findings. In particular, students who reported reading for fun on their own time at least weekly had higher average proficiency than those who never or hardly ever read for fun. Conversely, fourth graders who reported watching television 6 hours or more per day had lower average reading proficiency than their counterparts who reported much less viewing. The percentages of fourth graders who reported such heavy television viewing varied substantially across the participating jurisdictions, from an estimated 11 percent in Utah to an estimated 36 percent in the District of Columbia.

APPENDIX A

Anchoring the Achievement Levels

Introduction

This Appendix contains detailed information about what students' performance on the individual reading assessment questions tells us about attainment of the achievement levels set by the National Assessment Governing Board (NAGB). The scale anchoring procedure involved experts analyzing performance on each assessment question, and an attempt has been made to capitalize on that effort to present a thorough description of what was found. Some materials from the 1992 reading assessment are released to illustrate the assessment content and many of these materials are used as points of reference. Because plans call for administering the majority of the materials in NAEP's 1992 reading assessment again in 1994 to measure trends in students' reading achievement, those passages and questions are by necessity being kept secure and the specifics cannot be revealed as part of the following discussion.

First, the anchoring process is described as applied to the achievement levels. Next, for each grade, there is a summary of the reading skills displayed by students in the assessment at each achievement level, according to the reading purposes described in the *NAEP Reading Framework* -- literary, informational, and to perform a task. The anchor summaries are supported with example questions selected to illustrate the types of questions contained in the 1992 reading assessment and how these questions and their anchor data were used to create a picture of students' reading abilities and skills at each of the achievement levels. The released reading passages are presented in their entirety in Appendix D.

Following the anchor summary for each grade is a detailed discussion (achievement level by achievement level) that recasts the findings from the anchoring process in the context of the full operational definitions of the achievement levels. Both the performance summaries and the analyses of individual questions are brought to bear in describing how students' reading achievement, as measured in the assessment, corresponds to the operational definitions of each of the achievement levels at each grade.

The Scale-Anchoring Process

To describe actual students' performance on the NAEP reading assessment, a modified scale-anchoring procedure was applied to the 1992 reading achievement levels. The modified anchoring process determined the sets of questions that students scoring at or above each achievement level cutpoint could perform with a high degree of success. A committee of reading experts and educators reviewed the questions and, using their knowledge of reading and student performance, generalized from the questions to describe reading skills exhibited at each achievement level.

Specifically, a question was identified as anchoring at an achievement level for a given grade if it was answered correctly by at least 65 percent of the students in that grade scoring at the cutpoint of that achievement level and by less than 65 percent of the students scoring at the cutpoints for any lower achievement levels. To permit all questions to be included in the analysis, the traditional discrimination criterion, requiring that success at the next lower level be at least 30 percentage points lower, was not used. Because the extended constructed-response questions were scored according to four levels (minimal, partial, essential, and extensive), each extended constructed-response question was treated as three distinct items corresponding to scores of partial or better, essential or better, and extensive. The three items were analyzed in the same manner as questions scored correct/incorrect, allowing for example, an extended constructed-response item to anchor both at the Proficient level for partial-or-better responses and at the Advanced level for essential-or-better responses.

To extend the description of the Advanced achievement level, since that interval does not have an upper boundary, an additional set of questions was identified as almost anchoring at the Advanced level. These questions had probabilities of success between 50 and 65 percent for minimally advanced students and identify the types of skills that more advanced students are likely to possess.

To provide a sufficient pool of respondents in identifying anchor questions, students at the cutpoint of each achievement level were defined as those whose estimated reading proficiency was within plus or minus 12.5 points of the achievement level cutpoint. This cutpoint interval is consistent with previous anchoring procedures and provides an empirical estimate of the average performance of students scoring at the cutpoint. To provide stable estimates, the calculations of the chances of success on an item were based on at least 70 students in the cutpoint interval; this is a reduction from the previous requirement of 100 students to accommodate the small number of students reaching the Advanced level.

Since NAEP reports the percentages of students *at or above* each achievement level cutpoint, it is important that the process of describing student performance be sensitive to skills displayed by students *at* the cutpoint as well as by those *above* the cutpoint. Conducting the anchoring at the achievement level cutpoints enables an examination of the reading skills exhibited by the range of students within each of the intervals. Because, for example, an item anchoring at the Basic-level cutpoint will be answered correctly by at least 65 percent of minimally Basic students and even more of the students scoring higher in the interval, a description of an entire achievement level interval can be inferred by comparing the descriptions for adjacent cutpoints. (In contrast, anchoring the intervals would enable inferences about what the typical or average student within an interval can likely do, but not about the students at the threshold of the interval.)

The items were placed in notebooks by grade in the following order: anchored at Basic, Proficient, Advanced, and Almost Advanced. For cross-referencing purposes, the remaining items in the assessment were also included in the notebook under the "did not anchor" heading. Within achievement level, the questions were presented by reading purpose and stance. The data for each question included the percentage of success for students at each achievement level, the counts and weighted proportions of students at each level, and the overall percent correct on the item for the total population of respondents. Each constructed response question was accompanied by its scoring guide.

TABLE A.1 presents the distribution of items for each grade and text type by the corresponding achievement level. The questions that did not anchor were those too difficult for even 50 percent of the Advanced students. There were 14 such questions at grade 4, 17 at grade 8, and 19 at grade 12. The majority of these were for extensive scores for the extended constructed-response questions.

To provide additional information about the performance of students within each of the achievement level intervals, and of students who performed below the basic level, data also were available from an item-mapping procedure. For each reading purpose, the questions were arranged in the order of the proficiency level corresponding to a defined expected probability of success based on the Item Response Theory parameters. For consistency with the anchoring process, a .65 expected probability of success was used.

TABLE A.1 **Distribution of Items by Achievement Level**

Grade 4			
Achievement Level	*Literary*	*Informative*	
Basic	16	15	
Proficient	12	11	
Advanced	12	12	
Almost Advanced	4	4	
Grade 8			
Achievement Level	*Literary*	*Informative*	*Practical*
Basic	11	16	8
Proficient	12	20	19
Advanced	11	13	6
Almost Advanced	2	8	3
Grade 12			
Achievement Level	*Literary*	*Informative*	*Practical*
Basic	8	27	18
Proficient	11	20	9
Advanced	11	17	10
Almost Advanced	1	3	2

Twenty reading education experts participated in the anchoring process. They represented teachers for the various grades involved, college professors, state curriculum supervisors, and researchers. The panelists were divided into three groups, one for each grade, with each group undertaking a systematic analysis of the anchor items and data for each achievement level at that grade, reading purpose by reading purpose. The grade-level groups worked independently for the most part, with periodic meetings across the three groups to reconcile views. With the framework for the 1992 reading assessment and the achievement level definitions as references, panelists were asked to use the anchoring and item mapping information to describe the knowledge, skills, and reasoning abilities demonstrated by the students at each achievement level. In

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developing these descriptions, the panelists were instructed to consider the context of the assessment and not to over infer skills from limited numbers of items.

Anchor Descriptions of Achievement Levels and Exemplar Items

The anchor descriptions of reading abilities summarize students' performance on the 1992 NAEP reading assessment at each achievement level for each grade. The descriptions are intended to be cumulative from Basic-level performance through Advanced. Therefore, demonstrated ability at the Proficient level presumes Basic-level performance and Advanced performance presumes Proficient as well as Basic abilities.

Example questions were selected for each achievement level by the anchoring panel to illustrate the range of reading proficiency for students at each level. Example items for a particular grade are presented in this appendix after the anchor descriptions of achievement levels for the corresponding grade. Both multiple-choice and constructed-response questions were selected to illustrate performance at each of the achievement levels. Multiple-choice items as well as regular constructed-response items were scored dichotomously. That is, students were either given credit for answering the question correctly or given no credit for the item. Extended constructed-response questions, however, were rated with a four-point scoring guide describing four levels of comprehension. Therefore, different score levels for the same question may have anchored at different achievement levels. The particular response (*partial or better, essential or better, or extensive*) that anchored at the achievement level is indicated. Also, a summary of the scoring rubric used to rate students' responses to constructed-response questions is provided.

The national percentage correct for multiple-choice questions and dichotomously scored constructed-response questions as well as the percentage of students attaining a specific score point for polytomously scored constructed-response questions is indicated for each example question. In addition, the conditional percentages that represent the performance of students at an achievement level are included. These conditional percentages show what percentages of students at various achievement levels answered the question correctly. The overall percentages are for all students in the nation, not just those performing at the achievement level being described. The percentage of students across the nation answering a question acceptably -- regardless of reading proficiency on the NAEP scale -- will usually differ from the percentage at that achievement level who answered acceptably. (Also, please note that the conditional percentages in Chapter One will differ from the ones in Appendix A because the percentages in Chapter One were based on students who fell in the achievement level intervals rather than at the threshold of the achievement levels.)

Students' Performance in the Context of Achievement Levels

The anchor summaries and example questions for each grade are followed by a detailed discussion of performance at each achievement level. Drawing on the anchor summaries and question-by-question data used in the anchoring process, the discussion explores what the assessment tells us about student performance across the achievement levels at that grade as operationalized for the reading assessment. When possible, an attempt has been made both to characterize typical performance within the achievement level as well as to provide some indication of the range of student abilities, from skills that were emerging to those that students seemed to find relatively easy.

The detailed discussions begin by providing the operational definition of each of the achievement levels in turn (reproduced from Chapter One) and then proceed to describe student performance from the perspective of that achievement level. Because NAEP's 1992 reading assessment was developed -- according to specifications provided by NAGB -- prior to the Board's development of the achievement levels, the correspondence between the assessment questions and the operational definitions is sometimes uneven. If portions of the operational definitions were not covered in the assessment, this is so noted. Also, in trying to generalize about students' reading achievement vis-à-vis the achievement levels, the greater the number of assessment questions the better. However, these concerns imply a substantially larger pool of assessment questions, carefully designed to support reporting about performance relative to a set of performance standards. That may be easier to say than to do, especially given both the available resources and students' propensity to answer questions from their own knowledge base regardless of which standards questions were designed to measure.

Throughout the detailed discussions, the percentages of students responding acceptably to individual questions refer to performance at the specific achievement level using the conditional percentages of success. For example, if substantial percentages of students at the threshold of the achievement level can answer a question acceptably, say 80 percent or more, then students at that achievement level have demonstrated a solid grasp of the information being measured. If 90 percent or more demonstrate understanding, then there is nearly universal understanding of the concept for students at that achievement level. In comparison, if fewer students, say 65 percent or so of the students at the threshold of the achievement level, can answer a question acceptably, then the concept being measured may be a beginning or emerging understanding for students at that achievement level. That is, about two-thirds of the students would be able to perform the task, but not all. In these instances, it is often informative to see if students at the threshold of the next highest achievement level have developed a fuller understanding and have greater success with the question.

Because the threshold of the Proficient level also is the top of the Basic level, demonstrated ability at the Proficient level presumes Basic-level performance -- all questions answered acceptably by Basic-level students were answered acceptably by even greater percentages of Proficient-level students. In describing performance at the Proficient-level and on to the Advanced level, we are interested primarily in describing new skills that have been added to students' reading repertoires.

Anchor Descriptions of Fourth Graders' Performance at the Basic, Proficient, and Advanced Achievement Levels

Grade 4 students ...

Basic (212)	**... understand uncomplicated narratives and high-interest informative texts, identify obvious themes, locate explicit information, summarize parts of text, and make judgments about characters' actions.**

Fourth-grade students at the Basic level can read uncomplicated narratives with understanding. The *literary* texts at this level include fables and realistic fiction about familiar topics. These students can answer questions that focus on specific parts of the story. They are able to identify an obvious theme or message. They can take the perspective of characters that are familiar or similar to themselves and compare characters to each other. In addition, they can relate to the feelings of familiar characters, as well as interpret and make judgments about the characters' actions.

Students at the Basic level are able to gain information from high-interest *informative* texts. These students are successful when texts are structured as narratives and deal with relatively familiar topics. Students can search for and locate explicit information within the text, as well as provide evidence of straightforward comprehension of the text. They are able to select relevant information in order to provide a summarization focusing on part of the text. They can build simple inferences based on specific information. These students also are able to construct their own simple questions related to the passage.

Grade 4 students ...

Proficient (243)	**... understand and interpret less familiar texts, provide textual support for interpretations, generalize across text, identify relevant information, understand subtleties in aspects of a story, relate text to background experiences, and formulate simple questions.**

Fourth-grade students at the Proficient level can form an understanding and extend the meaning of more difficult, unfamiliar *literary* pieces -- those in culturally different or historical settings. They are able to respond to questions that require some interpretation. Some can construct responses to the story as a whole, as well as consider subtleties in aspects of the story. When given interpretations of the story, they can provide some justification and support for those interpretations. They are able to recognize multiple perspectives. In addition, they have the ability to connect information in the story to the author's purpose, as well as consider alternate possibilities for the story's development.

Students at the Proficient level are able to gain information and to interpret the meaning of *informative* text that contains narrative elements and direct quotes. Their responses to increasingly more challenging questions provide evidence that they can search for, locate, select, prioritize, and apply relevant information. They can generalize across parts of the text. They can relate information from the selection to their own background experiences and to inferences that are provided for them. They also are able to recognize an author's basic organizational pattern.

Grade 4 students ...

Advanced (275)	**... interpret and examine the meaning of text, summarize information across whole texts, develop their own ideas about textual information, understand some literary devices, and are beginning to formulate more complex questions about text.**

Fourth-grade students at the Advanced level can form an understanding of what they read and extend, elaborate, and examine the meaning of *literary* texts. They can construct responses to a story by selecting relevant information and building their own interpretations that remain consistent with the text. They are able to summarize information across the whole story. They understand some literary devices, such as figurative language, and can interpret the author's intentions.

Students at the Advanced level can gain information from what they read and can extend, elaborate, and examine the meaning of *informative* texts about less familiar topics. They are able to read for the purpose of gaining a more thorough understanding of a particular topic, and some can develop their own ideas based on the information presented in the passage. They can discriminate the relative importance of ideas in the text and are beginning to form more complex questions about the selection. They are able to provide an explanation of the author's techniques for presenting information.

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Grade 4 Basic: Example 1 *Sybil Sounds the Alarm*

[This passage is a fictional account of an historical event that describes the courage of a young colonial girl in riding her horse to warn of the approaching British army.]

Sybil's father thought that she

A was obedient but forgetful
→ **B** was courageous and a good rider
C could lead the troops against the British
D could easily become angry

Overall Percentage Correct*: **71 (1.4)**

Conditional Percentage
Basic Level*: **70 (3.0)**

Grade 4 Basic: Example 2 *Amanda Clement: The Umpire in a Skirt*

[This passage is an informative article about how Amanda Clement became the first paid woman umpire on record.]

Write a paragraph explaining how Mandy got her first chance to be an umpire at a public game.

____
____
____
____
____

Acceptable answers indicated that the umpire for a preliminary game between two local teams did not show up for the game and/or Mandy's brother suggested that she do the job.

Conditional Percentage
Basic Level*: **66 (3.4)**

Overall Percentage Correct*: **66(1.6)**

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* The standard errors of the estimated percentages appear in parentheses.

Grade 4 Basic: Example 3 *Amanda Clement: The Umpire in a Skirt*

[This passage is an informative article about how Amanda Clement became the first paid woman umpire on record.]

Answers to this extended constructed-response question that were scored ***Partial or better*** *anchored at the Basic Achievement Level.*

If she were alive today, what question would you like to ask Mandy about her career? Explain why the answer to your question would be important to know.

Partial-level performance on this item demonstrated at least some understanding of the information in the article by posing one or more questions that were either not explained or were explained using circular reasoning. In addition, partial-level responses may have focused on issues unrelated to Mandy's non-traditional role.

Overall Percentage at Partial or Better*: **83 (1.5)**

Conditional Percentage
Basic Level*: **84 (2.8)**

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* The standard errors of the estimated percentages appear in parentheses.

Grade 4 Proficient: Example 1 *Sybil Sounds the Alarm*

[This passage is a fictional account of an historical event that describes the courage of a young colonial girl in riding her horse to warn of the approaching British army.]

If you had just finished a ride like Sybil's, how would you feel and why?

Acceptable responses provided a personal reaction accompanied by a brief explanation or justification that reflected a consideration of Sybil's experience.

Overall Percentage Correct*: **64 (2.0)**

Conditional Percentage Proficient Level*: **85 (3.1)**

Grade 4 Proficient: Example 2 *Sybil Sounds the Alarm*

[This passage is a fictional account of an historical event that describes the courage of a young colonial girl in riding her horse to warn of the approaching British army.]

The information about the statue and stamp helps to show that

→ **A** people today continue to recognize and respect Sybil's bravery
B people were surprised that George Washington honored her
C the author included minor details
D heroes are honored more now than they were then

Overall Percentage Correct*: **62 (1.5)**

Conditional Percentage Proficient Level*: **80 (3.1)**

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* The standard errors of the estimated percentages appear in parentheses.

Grade 4 Advanced: Example 1 — *Sybil Sounds the Alarm*

[This passage is a fictional account of an historical event that describes the courage of a young colonial girl in riding her horse to warn of the approaching British army.]

Answers to this extended constructed-response question that were scored ***Partial or better*** *anchored at the Advanced Achievement Level.*

What are the major events in the story?

Partial-level performance on this item demonstrated some understanding of Sybil's ride by providing an account of one or two events, but not accompanied by a description or an explanation of the importance of the events. These responses may also have been a brief statement without actually mentioning specific events.

Overall Percentage at Partial or Better*: **41 (1.8)**

Conditional Percentage
Advanced Level*: **84 (6.9)**

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* The standard errors of the estimated percentages appear in parentheses.

Grade 4 Advanced: Example 2

Sybil Sounds the Alarm

[This passage is a fictional account of an historical event that describes the courage of a young colonial girl in riding her horse to warn of the approaching British army.]

Could a similar story take place today? Tell why or why not.

Acceptable answers stated an opinion and provided an explanation that demonstrates understanding of the historical context of the story.

Overall Percentage Correct*: **27 (1.3)**

Conditional Percentage
Advanced Level*: **74 (6.4)**

Grade 4 Advanced: Example 3

Amanda Clement: The Umpire in a Skirt

[This passage is an informative article about how Amanda Clement became the first paid woman umpire on record.]

The information in the passage is presented mainly by

A comparing Mandy to other umpires
→ **B** discussing important events in Mandy's life
C describing the game of baseball
D providing details about life in the early 1900s

Overall Percentage Correct*: **49 (1.5)**

Conditional Percentage
Advanced Level*: **74 (6.4)**

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* The standard errors of the estimated percentages appear in parentheses.

Grade 4 Advanced: Example 4 *Amanda Clement: The Umpire in a Skirt*

[This passage is an informative article about how Amanda Clement became the first paid woman umpire on record.]

Answers to this extended constructed-response question that were scored ***Essential or better*** *anchored at the Advanced Achievement Level.*

If she were alive today, what question would you like to ask Mandy about her career? Explain why the answer to your question would be important to know.

Responses to this item scored "Essential" demonstrated understanding of the primary information presented in the article by posing at least one question that was specifically related to Mandy's career. The question was accompanied with an explanation that was relevant to furthering the students' own understanding of how it feels to be an athlete who is highly successful or the first person to do something.

Overall Percentage at Essential or Better*: **33 (1.4)**

Conditional Percentage
Advanced Level*: **57 (7.5)**

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* The standard errors of the estimated percentages appear in parentheses.

Fourth-Grade Students' Performance at the Achievement Levels

BASIC LEVEL (212)	Fourth-grade students performing at the **Basic level** *should demonstrate an understanding of the overall meaning of what they read.* When reading text appropriate for 4th graders, *they should be able to make relatively obvious connections between the text and their own experiences.*

For example, when reading **literary text**, they should be able to tell what the story is generally about -- providing details to support their understanding -- and be able to connect aspects of the stories to their own experiences.

When reading **informational text**, Basic-level 4th graders should be able to tell what the selection is generally about or identify the purpose for reading it; provide details to support their understanding; and connect ideas from the text to their background knowledge and experiences.

* * *

Grade 4: Basic Level -- Literary Text

With the exception of the first example question shown from "Sybil Sounds the Alarm" about her father thinking she was courageous, the remaining questions about this passage were too difficult for fourth graders at the Basic level (see "Sybil Sounds the Alarm" in Appendix D). The literary texts understood the best by fourth graders at this level included a fable and a straightforward fictional account, both about familiar topics (and both secure for use in future assessments). Students at the Basic level were able to identify the rather obvious theme or message of each of these passages.

Fourth graders at the Basic level had considerable success in answering questions about characters' traits, actions, and perspectives, much of the time because the familiarity of the topics related either implicitly or explicitly to their own experiences. Nearly all fourth graders at this level could identify the primary traits and feelings of the characters and interpret and make judgements about those traits and feelings from their own point of view. Most were capable of making connections between these characters and their own experiences as evidenced by their success (72 to 79 percent acceptable) on four personal-response questions, three of which required written answers.

Basic-level fourth graders answered questions that focused on specific parts of the stories and provided details to support their understanding in several constructed-response questions. Two of the more difficult questions within the range of these fourth graders were about relationships between characters. One is the "Sybil" Example 1 question about her father thinking she was courageous and the other required students to take one character's perspective about another character rather than their own perspective.

Grade 4: Basic Level -- Informative Text

Fourth graders at the Basic level were able to search for and locate explicit information in high-interest informative texts that were configured as narratives about familiar topics. For example, they had some degree of success with the questions associated with the released passage about "Amanda Clements: Umpire in a Skirt" (see Appendix D). Among the most difficult tasks within the range of Basic-level fourth graders was summarizing informative text, as shown by Example 2, asking students to tell how Mandy got her first chance in baseball. Fourth graders within the Basic level were able to summarize parts of texts, not whole texts.

Basic-level fourth graders were partially successful at making connections to background knowledge or experiences. They constructed one question of their own to ask Mandy, an exercise that shows some connection to their background knowledge and experiences. However, they were unable to articulate two questions they could ask. Similarly, they were only partially successful on another personal-response question requiring an extended-constructed response.

These fourth graders demonstrated straightforward comprehension by choosing relevant information and building simple inferences based on specific information in the passages. A more difficult task for these students was generalizing across parts of the text to identify what the passage was mostly about, given a choice among major and minor topics (65 percent correct). Fourth-grade students were not asked directly to identify the purpose for reading any of the four informational texts administered at that grade.

PROFICIENT LEVEL (243)	Fourth-grade students performing at the **Proficient level** *should be able to demonstrate an overall understanding of the text, providing inferential as well as literal information.* When reading text appropriate to 4th grade, *they should be able to extend the ideas in the text by making inferences, drawing conclusions, and making connections to their own experiences. The connection between the text and what the student infers should be clear.*

For example, when reading **literary text**, Proficient-level 4th graders should be able to summarize the story, draw conclusions about the characters or plot, and recognize relationships such as cause and effect.

When reading **informational text**, Proficient-level students should be able to summarize the information and identify the author's intent or purpose. They should be able to draw reasonable conclusions from the text, recognize relationships such as cause and effect or similarities and differences, and identify the meaning of the selection's key concepts.

* * *

Grade 4: Proficient Level -- Literary Text

The literary passages understood by Proficient-level fourth graders were more complex and unfamiliar, including the Sybil passage set in a historical context, as well as a story presented from a culturally different perspective. Although Proficient-level students were able to answer several questions requiring global consideration of the passages, as illustrated by the Sybil question asking students to provide their own summarizations of the major events of a story (Example 1 at the Advanced level), summarization of important information was relatively difficult for those at the threshold of the Proficient level. Only 61 percent of the Proficient-level students were able to provide even a partial response that included one or two major events or a brief generalization. Since summarizing important information involves decision-making, discrimination, and is dependent upon writing skills, this complex task was better handled by Advanced-level readers. (Eighty-four percent at that higher level could provide partial summaries even though only 13 percent provided the essential information for a complete answer -- at least two major events from the story with some context.)

Proficient-level readers were able to answer questions that required some interpretation and consideration of subtleties in aspects of the stories. For example, they recognized multiple perspectives among the characters in the stories and adopted character's perspectives in order to draw conclusions about characters' actions and feelings and to describe obvious cause/effect relationships or problem/solution situations related to story events. Of four questions that required connections between the stories and students' own experiences, percentages of success ranged from 77 to 82 percent for all but one (68 percent). For an illustration, see Example 1, where 82 percent of the students were able to explain how they might have felt if asked to take a dangerous ride like that taken by Sybil. This is a somewhat more difficult question than that seen at the Basic level, requiring inferences to be made as well as connections with the readers' own experiences and knowledge. Three of the questions about connections to personal experiences were constructed-response questions requiring some justification or support.

Six of the literary questions successfully answered by students at the Proficient level were classified under critical stance, providing some evidence that these students could connect information in the stories to the author's purpose, as well as consider alternate possibilities for the story's development. For example, 80 percent of Proficient-level students correctly recognized that the Sybil story contained information about her statue and stamp to show that people respected Sybil's bravery (Example 2).

Grade 4: Proficient Level -- Informative Text

Fourth graders at the Proficient-level successfully answered questions about texts that were expository or mixed in genre. For example, one article contained both expository and narrative elements as well as quotes from primary sources and captioned illustrations.

Although no questions about the informational texts directly asked students to provide summarizations, Proficient-level fourth graders successfully answered seven questions that required thinking about the entire text and sorting out the key concepts according to some criteria (from 66 to 86 percent acceptable performance).

When asked to describe cause and effect relationships requiring thoughtful consideration of implicit information, they were only partially successful. Three-fourths provided acceptable answers to a question explicitly asking for similarities and differences.

Several multiple-choice as well as four constructed-response questions provided evidence that Proficient-level fourth graders can search for, locate, select, prioritize, and apply relevant information. One of these questions also required specific connections to students' own background experiences. Seventy-four percent of the Proficient-level fourth graders were able to identify the author's strategy or organizational pattern in helping the reader to learn about the topic of the article.

ADVANCED LEVEL (275)	Fourth-grade students performing at the **Advanced level** *should be able to generalize about topics in the reading selection and demonstrate an awareness of how authors compose and use literary devices.* When reading text appropriate to 4th grade, *they should be able to judge texts critically and, in general, give thorough answers that indicate careful thought.*

For example, when reading **literary text**, Advanced-level students should be able to make generalizations about the point of the story and extend its meaning by integrating personal experiences and other readings with the ideas suggested by the text. They should be able to identify literary devices such as figurative language.

When reading **informational text**, Advanced-level 4th graders should be able to explain the author's intent by using supporting material from the text. They should be able to make critical judgments of the form and content of the text and explain their judgments clearly.

* * *

Grade 4: Advanced Level -- Literary Text

When reading literary text, Advanced-level fourth graders were able to generalize about the main points and topics in the stories they read by selecting relevant information and building their own interpretations that remained consistent with the text. To some extent, they were able to extend the meaning of the passages by combining their personal knowledge with the ideas in the text. For example, 73 percent of the Advanced fourth graders (compared to 27 percent nationally) were able to express a conclusion about whether events like those in the Sybil story could be expected to happen in today's world (see Example 2). This question required the readers to make critical inferences and predictions consistent with both the information in the passage and their own knowledge and experience. In another question, requiring that students use their own experience to help explain a metaphor contained in a story, they were only partially successful, tending to provide rather literal presentations of the characters' actions.

Generally, Advanced-level fourth graders were only beginning to demonstrate the ability to provide essential information in their responses to the extended questions. Of the four extended questions about literary passages, two were answered at the essential level or better by only slightly more than half the

Advanced-level fourth graders (one requiring the presentation of specific information was easier and the summary of the Sybil passage was more difficult). Only a few of the Advanced students provided extensive responses to the literary extended constructed-response questions (from 1 to 33 percent). Also, these percentages are conditional on only the 4 percent of the fourth graders reaching the Advanced achievement level. Therefore, only negligible percentages of fourth graders across the nation demonstrated the ability to provide in-depth, detailed responses to questions in the 1992 reading assessment.

Fourth graders at the Advanced level were able to understand some literary devices, such as figurative language, and could interpret authors' intentions. For example, 78 percent of the students at the Advanced level explained why the author called the story "Sybil Sounds the Alarm" and 80 percent described how the author showed the excitement and danger of Sybil's ride.

Grade 4: Advanced Level -- Informative Text

Fourth graders at the Advanced level explained the author's techniques of presenting information, but were not asked to support their explanations. For example, 74 percent of the Advanced fourth graders recognized that the information in the Amanda Clements passage was presented mainly by discussing important events in Mandy's life (see Example 3).

Advanced-level fourth graders used the information presented to draw logical conclusions about textual content and answer other questions requiring inferences. They were able to read for the purpose of gaining a more thorough understanding of a particular topic and some developed their own ideas based on the information presented in the passage. For example, across a series of six questions, from 65 to 83 percent were able to review the text carefully, to locate and confirm information (either locally or across the whole text), or to support a hypothesis or interpretation. In several instances, they were asked to provide this information in written form and to apply their own background knowledge.

Advanced-level fourth graders were able to make critical judgments about the form and content of informative text by discriminating the relative importance of ideas and successfully answering several questions about stylistic devices. However, they had some difficulty providing essential information when responding to the extended constructed-response questions. The four such questions were answered at the essential or better level by 72, 62, 57, and 28 percent of the Advanced-level fourth graders. One of these tasks (57 percent) required students to think of questions to ask Mandy about her career as a baseball umpire, (discussed earlier as Example 3 at the Basic level). Basic-level fourth graders were able to provide partial responses to this task, whereas Advanced-level fourth graders provided more information in their responses, asking Mandy more complex questions accompanied by explanations about why their questions were relevant to her career. Very few Advanced-level fourth graders provided extensive responses to these informational extended-response questions (from 2 to 37 percent of the 4 percent at this level).

Anchor Descriptions of Eighth Graders' Performance at the Basic, Proficient, and Advanced Achievement Levels

Grade 8 students ...

Basic (244)	**... understand familiar genres, identify literal information, recognize central theme or topic, identify the central purpose of practical documents, interpret and describe character traits, and connect information from across text.**

Eighth-grade students' responses at the Basic level demonstrate fundamental understandings of *literary* texts from familiar genres. These texts are not complex or abstract -- they contain a single perspective and a central focus. These students can answer questions that focus on surface or literal understandings of the story. They can identify the basic theme of a story and can connect ideas within one section or across larger parts of the text. They are able to interpret and describe character traits.

Students' responses at the Basic level demonstrate an ability to make concrete interpretations from *informative* texts (i.e., biographies, articles, informative narratives) that present information in a relatively straightforward manner. These students can recognize the central purpose by interpreting information across a text and by using structural text features, such as subheadings, exemplification, and organizational patterns. They are able to locate and to recognize explicitly stated information as well as to connect information in one section of text with that from other sections. They are able to recognize the reasons an author might include partial information.

Students at the Basic level are able to locate guidelines or directions that are explicitly stated in practical *documents*. They demonstrate some familiarity with documents as well as an understanding of their purpose and usefulness. They can connect information presented within one section of a text to information in another. They can articulate a personal view or choice about a document and support their opinion. In addition, they can use explicit directions to produce a specific textual form or document type.

Grade 8 students ...

Proficient (283)	**... move beyond surface understanding of a text or multiple texts, make inferences about characters and themes, link generalizations to specific details, support an opinion about text, recognize an author's intentions, and use a document to solve simple problems.**

Eighth-grade students at the proficient level are able to move beyond surface understandings of *literary* texts (i.e., historical fiction, tales) to develop fuller interpretations. They can recognize and interpret overall messages or themes implied in a literary piece. They are able to connect and make inferences about essential elements of stories and characters. They are able to interpret a character's ideas and feelings based on the events in the story and their own interpretation of the character's personality and role. These students can develop a perspective on a character's motivation by relying on their own understanding of human nature and essential story features, such as plot, dialogue, and description. They also can recognize an author's intentions and identify an author's use of symbolism to convey a story theme.

Proficient readers are able to locate and integrate information from different sections of an *informative* text and across multiple texts. At this level, students are able to gain information from textbook chapters as well as biographies, articles, and informative narratives. These students can recognize a generalization and link it to specific details within the text. They demonstrate the ability to compare and contrast as well as summarize information from across the text. They are able to form

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personal opinions about the content and provide supportive examples from text. They demonstrate an ability to use knowledge of organizational structures to gain information.

Readers at the proficient level are able to use multiple sources (i.e., time tables, instructions, maps) to locate information explicitly stated in a *document*. They can interpret the meaning of graphic symbols, such as map legends. They show the ability to perform tasks that involve extracting information embedded within a document. They are able to discriminate among similar sources in accessing information to perform a task and solve a simple problem. They can understand how and why authors use text features and the relationship among particular features within documents, such as illustrations and examples.

Grade 8 students ...

Advanced (328)	**... compare and contrast information across multiple texts, connect inferences with themes, understand underlying meanings, integrate prior knowledge with text interpretations, and demonstrate some ability to evaluate the limitations of documents.**

Eighth-grade students reading at the advanced level are able to extend *literary* interpretations by relating personal knowledge to story characters and events. They demonstrate an understanding of fairly abstract themes and provide personal reactions to overall themes. They are able to interpret underlying meanings and complexities of characterizations and plot developments. They are able to connect inferences about characters' motives and feelings with story themes and provide supporting evidence from the story. In addition, they can relate themes across genres and to real-world situations. They also demonstrate the ability to consider the author's use of literary devices and relate it to an underlying theme.

Advanced eighth-grade readers are able to understand, to interpret, and to evaluate information presented in *informative* text. They are able to compare and contrast information within a text and across multiple texts and various genres. They make use of illustrations to enhance their interpretations of text. They can locate specific information embedded within text. They draw on knowledge from other subject areas and take a historical perspective in developing interpretations about text information. These students demonstrate the ability to formulate opinions about the information they read and support their ideas with appropriate text-based evidence.

Eighth-grade students at the advanced level are able to locate and to use very specific, deeply embedded information in a fairly complex *document*. They use multiple pieces of information from various locations within a document to complete a task or solve a real-world problem. Many are able to evaluate the presentation of information in a document, recognize its limitations, and suggest improvements.

Grade 8 Basic: Example 1

Cady's Life/I Am One

[This passage is a short story written by Anne Frank about a young Christian girl in Nazi Germany and her Jewish friend. The story is introduced with a brief biography of Anne Frank. A poem with a related theme follows the story.]

Why did Cady believe Mary would be leaving home soon?

→ **A** Other children were being taken away during the night.
B Mary told Cady that her family wanted to leave soon.
C Mary's family received an eviction notice from the landlord.
D Mary's father, a German officer, was being reassigned.

Overall Percentage Correct*: **74 (1.1)**

Conditional Percentage
Basic Level*: **67 (2.9)**

Grade 8 Basic: Example 2

Dorothea Dix: Quiet Crusader

[This passage is an informative article about Dorothea Dix's struggles during the 19th century to gain better treatment for persons with a mental illness.]

Why is Dorothea Dix's poor health mentioned periodically throughout the passage?

A To make us feel sorry for her
→ **B** To remind us of the difficulties she overcame
C To highlight her unrealistic attitude about good health
D To draw attention to the effects of tuberculosis

Overall Percentage Correct*: **79 (1.1)**

Conditional Percentage
Basic Level*: **72 (3.2)**

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* The standard errors of the estimated percentages appear in parentheses.

[This task required students to read and use an actual bus schedule that included tables, maps, and text.]

Lois wants to use a wheelchair lift. What telephone number should she call to arrange this?

A 1-201-935-2500
B 1-800-772-3606
C 1-800-772-2287
→ **D** 1-800-582-5946

Overall Percentage Correct*: **91 (1.0)**

Conditional Percentage Basic Level*: **91 (2.3)**

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* The standard errors of the estimated percentages appear in parentheses.

Grade 8 Proficient: Example 1 *The Oregon Trail/Nettie's Big Fish*

[Two passages about the Oregon Trail were combined -- one passage was an informational account of the Trail and the other was a narrative piece based on a diary entry.]

Answers to this extended constructed-response question that were scored ***Partial or better*** *anchored at the Proficient Achievement Level.*

Pretend that you are a young adult of the 1840s who has caught a case of "Oregon fever." Use information from both the passages and from your own knowledge to explain what you would do about Oregon fever and why.

Responses to this item scored "Partial" demonstrated understanding of only part of either passage by providing some explanation of what they would do but not explaining why.

Overall Percentage at Partial or Better*: **69 (1.2)**

Conditional Percentage
Proficient Level*: **86 (3.2)**

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* The standard errors of the estimated percentages appear in parentheses.

Grade 8 Proficient: Example 2

Bus Schedule

[This task required students to read and use an actual bus schedule that included tables, maps, and text.]

If you need to transfer to connecting bus service 602, you can make the connection at which of the following transfer points?

A The Justice Complex
→ B The intersection of W. State Street and Warren Street
C The railroad station
D The intersection of Fairview Avenue and Barlow Street

Overall Percentage Correct*: **64 (1.3)**

Conditional Percentage
Proficient Level*: **74 (2.9)**

Grade 8 Advanced: Example 1

Cady's Life/I Am One

[This passage is a short story written by Anne Frank about a young Christian girl in Nazi Germany and her Jewish friend. The story is introduced with a brief biography of Anne Frank. A poem with a related theme follows the story.]

For Anne Frank, what was "the something that I can do?"

Acceptable answers mentioned at least on aspect of Anne Frank's life as described in the biographical sketch or portrayed in the story.

Overall Percentage Correct*: **33 (1.4)**

Conditional Percentage
Advanced Level*: **77 (7.2)**

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* The standard errors of the estimated percentages appear in parentheses.

Grade 8 Advanced: Example 2 *The Oregon Trail/Nettie's Big Fish*

[Two passages about the Oregon Trail were combined -- one passage was an informational account of the Trail and the other was a narrative piece based on a diary entry.]

Answers to this extended constructed-response question that were scored ***Essential or better*** *anchored at the Advanced Achievement Level.*

Pretend that you are a young adult of the 1840s who has caught a case of "Oregon fever." Use information from both the passages and from your own knowledge to explain what you would do about Oregon fever and why.

Responses to this item scored "Essential" demonstrated fundamental understanding of both passages by providing some explanation of what they would do and a reason that includes appropriate information from the passages.

Overall Percentage at Essential or Better*: **41 (1.1)**

Conditional Percentage
Advanced Level*: **83 (4.4)**

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* The standard errors of the estimated percentages appear in parentheses.

Grade 8 Advanced: Example 3

[This task required students to read and use an actual bus schedule that included tables, maps, and text.]

Monthly bus passes are not valid on which routes?

Acceptable answers indicate all four of the routes identified in the bus schedule as not valid with monthly passes.

Overall Percentage Correct*: **32 (1.2)**

Conditional Percentage Advanced Level*: **73 (7.1)**

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* The standard errors of the estimated percentages appear in parentheses.

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Eighth-Grade Students' Performance at the Achievement Levels

BASIC LEVEL (244)	Eighth-grade students performing at the **Basic level** *should demonstrate a literal understanding of what they read and be able to make some interpretations.* When reading text appropriate to 8th grade, *they should be able to identify specific aspects of the text that reflect the overall meaning, recognize and relate interpretations and connections among ideas in the text to personal experience, and draw conclusions based on the text.*

For example, when reading **literary text**, Basic-level 8th graders should be able to identify themes and make inferences and logical predictions about aspects such as plot and characters.

When reading **informative text**, they should be able to identify the main idea and the author's purpose. They should make inferences and draw conclusions supported by information in the text. They should recognize the relationships among the facts, ideas, events, and concepts of the text (e.g., cause and effect order).

When reading **practical text**, they should be able to identify the main purpose and make predictions about the relatively obvious outcomes of procedures in the text.

* * *

Grade 8: Basic Level -- Literary Text

Eighth graders performing at the Basic level responded most successfully to a tale with an obvious moral or message and a short story written by Anne Frank about a Christian girl in Nazi Germany (see "Cady's Life" in Appendix D). These two literary passages may have been easier to understand for these students who could recognize a familiar narrative structure in one story and relate to the character's age in the other.

The questions that students at this level answered most successfully required literal understanding or, in some instances, simple interpretations. They recognized facts and ideas and identified story elements that reflected overall meaning. When asked about a character's feelings or a plot event, they could locate specific ideas. Among the five questions that required this type of comprehension, 66 to 84 percent of students at the Basic level provided correct responses.

In the upper range of Basic-level performance, eighth graders made connections between ideas and events in text to support conclusions, particularly when characters were involved. For instance, Example 1, answered correctly by 67 percent of Basic-level students, required connecting information from across parts of the text to identify the nature of a main character's beliefs. Sixty-seven percent were able to draw on recurring story elements meaning to identify the theme of a tale. Questions requiring simple inferences about the meaning of a particular phrase and the reason for a character's feelings were answered successfully by 66 and 71 percent of Basic-level eighth graders.

Demonstrating their understanding through constructed responses was noticeably difficult for Basic-level eighth graders. The one constructed-response question associated with this level was relatively straightforward: it simply asked students to express a personal opinion about characters in a tale and provide minimal support for their opinions. Seventy-nine percent of the Basic-level students provided satisfactory responses.

Although the ability to make predictions about aspects of characters did emerge at the Proficient level, questions requiring logical prediction were difficult for eighth graders performing at the Basic level.

Grade 8: Basic Level -- Informative Text

Eighth-grade students at the Basic level successfully answered questions about informative passages that were structured as narratives as well as those with more typical expository text elements. However, when provided with two longer passages representing different genres (refer to "Oregon Trail" passages in Appendix D), these students were more challenged. Only two of the 17 informative questions at the Basic level were associated with this combination of passages.

Basic-level eighth graders were able to identify the main idea of an informative article (78 to 89 percent correct responses). In addition, they recognized the author's purpose for parts of texts. One illustration of this is Example 2, where 71 percent selected the most plausible reason for the inclusion of specific information. In one constructed-response question, 68 percent provided a written explanation for why the author would include direct quotes in an informative article.

Although the majority of questions at the Basic level simply required straightforward, literal understanding, there were some indications that these students could make inferences and draw conclusions that were closely tied to text. For example, 65 percent made a simple inference to identify why the work of a mental health advocate caused such an uproar (see "Dorothea Dix: Quiet Crusader" in Appendix D). There was some evidence that Basic-level students could recognize relationships among facts and ideas presented in text. Although eighth graders were not asked specifically about the chronological order of events in a passage, 65 percent of Basic-level students evidenced understanding of a fairly obvious cause and effect relationship between major events.

Grade 8: Basic Level - Practical Text

The practical materials read by eighth-grade students included instructions on how to write to a senator, a step-by-step description of how to prepare a time capsule, and an actual bus schedule for a bus route in an urban area (this schedule appears in Appendix D). With the exception of Example 3, the bus schedule appeared to be difficult for students at the Basic level, perhaps because it included tables and a map.

Basic-level students demonstrated an understanding of the general purposes for practical texts. In two questions, 72 and 78 percent of these students provided a personal reaction to the tasks described in the texts. In addition, 71 percent of the students at this level restated the major steps in preparing a time capsule that were listed directly in the text. However, when asked to write an actual letter to a senator according to the guidelines provided, 82 percent of these students were only partially successful.

Eighth-grade students at this level did not demonstrate an ability to make logical predictions about procedures described in practical text, although this skill was demonstrated by students at the higher achievement levels. Basic-level eighth graders experienced more success with items like the third example, which required them to extract specific, but embedded, information.

PROFICIENT LEVEL (283)	Eighth-grade students performing at the **Proficient level** *should be able to show an overall understanding of the text, including inferential as well as literal information.* When reading text appropriate to 8th grade, *they should extend the ideas in the text by making clear inferences from it, by drawing conclusions, and by making connections to their own experiences -- including other reading experiences.* Proficient 8th graders *should be able to identify some of the devices authors use in composing text.*

For example, when reading **literary text**, students at the Proficient level should be able to give details and examples to support themes that they identify. They should be able to use implied as well as explicit information in articulating themes; to interpret the actions, behaviors, and motives of characters; and to identify the use of literary devices such as personification and foreshadowing.

When reading **informative text**, they should be able to summarize the text using explicit and implied information and support conclusions with inferences based on the text.

When reading **practical text**, Proficient-level students should be able to describe its purpose and support their views with examples and details. They should be able to judge the importance of certain steps and procedures.

* * *

Grade 8: Proficient Level -- Literary Text

When reading text drawn from authentic literary sources, eighth graders at the Proficient level recognized and interpreted overall messages or themes that were implied, and provided appropriate details from the text in support of themes. For example, 70 percent of these students accurately described an underlying theme that was implied in a tale. They also selected an appropriate interpretation of a poem's theme. In their responses, Proficient-level eighth graders could integrate genre-specific knowledge, as well as personal background knowledge, with textual understanding. For example, these students interpreted a character's ideas and feelings based on events in the story and their own interpretation of the character's personality. Of the four questions that required students to interpret some aspect of a character, percentages of success ranged from 71 to 82 percent.

Students at this level were beginning to recognize and interpret an author's use of specific literary devices. Although questions about personification and foreshadowing were not included with these passages, students were asked about the symbolism used by Anne Frank in "Cady's Life." Seventy percent of them were able to describe the symbolism of a specific literary image used in this story.

Despite their relative success with the literary passages, Proficient-level eighth graders had difficulty constructing extended responses. For example, 89 percent of these students provided responses that were rated only partial or better when asked to demonstrate more in-depth understanding of a character's viewpoint that required integration with outside knowledge. Their responses to this question demonstrated some ability to predict character traits, but without adequate text-based explanation. Also, 86 percent demonstrated only partial comprehension when asked to provide an extended response comparing two characters in relation to a general theme.

These students did have some success (70 to 82 percent) with three regular constructed-response questions. The most difficult of these required articulation of an implied theme.

Grade 8: Proficient Level -- Informative Text

Eighth-grade students at the Proficient level successfully answered questions associated with a variety of informative texts, including the combination of texts about the Oregon Trail. They had considerable success in locating relevant information and responded equally well to multiple-choice and regular constructed-response questions.

They constructed adequate summaries of parts of text, but had some difficulty connecting events across a passage into an overall, extended summary. For example, 88 percent provided a brief summary of one person's contribution to the Oregon Trail, but 77 percent gave only partial summaries of all the events in an informative article. They supported text-based conclusions by connecting information in one section of text to a given conclusion and by providing specific details that could be linked to a generalization or major idea. Success with the seven items that specifically required this type of skill ranged from 73 percent to 91 percent. Those questions with lower percentages of success required written responses.

When asked to provide extended, personal responses to informative texts, these students evidenced at least partial comprehension, as shown by the first example. Although 86 percent were able to provide a personal connection by putting themselves in the historical context of the passage, they did not support their responses with adequate explanations.

Proficient-level eighth graders apparently were using knowledge of text structure to respond to some questions. For example, 86 percent identified one similarity or difference between two passages representing different genres.

Grade 8: Proficient Level -- Practical Text

Students at this level demonstrated proficiency with the bus schedule; which had been particularly difficult for Basic-level students. In general, students at the Proficient level demonstrated more complete understanding of the documents and practical tasks than Basic-level students.

Although eighth-grade students were not asked to describe a practical text's purpose, 76 percent of them identified an appropriate situation in which to use the bus schedule and 87 percent recognized a major point that was given the most emphasis by an author. They also provided written descriptions of key ideas and features in practical texts. Five of the questions at this level asked students to write brief summaries about important aspects of the task being described in the passage (e.g., how the final product could be improved). The proportion of Proficient-level students providing acceptable responses to these questions ranged from 76 to 87 percent. On two questions specifically asking about the importance of certain procedures, 91 percent identified an optional step and 87 percent identified which procedure had been left out when a negative outcome was described.

Some Proficient-level eighth graders understood how and why authors use text features and the relationship among particular features within documents. For example, 69 percent identified one author's use of a particular text feature to present information. Also, 78 percent correctly identified the reason for including illustrations in practical text.

In four items, 74 percent to 80 percent of eight graders at this level were able to use the tabular and graphic information displayed in the bus schedule in conjunction with the text to answer questions about bus service. One of these questions is Example 2, which 73 percent of Proficient-level students answered correctly.

ADVANCED LEVEL (328)	Eighth-grade students performing at the **Advanced level** *should be able to describe the more abstract themes and ideas of the overall text.* When reading text appropriate to 8th grade, they *should be able to analyze both meaning and form and support their analyses explicitly with examples from the text; they should be able to extend text information by relating it to their experiences and to world events.* At this level, student *responses should be thorough, thoughtful, and extensive.*

For example, when reading **literary text**, Advanced-level 8th graders should be able to make complex, abstract summaries and theme statements. They should be able to describe the interactions of various literary elements (i.e., setting, plot, characters, and theme); to explain how the use of literary devices affects both the meaning of the text and their responses to the author's style. They should be able critically to analyze and evaluate the composition of the text.

When reading **informative text**, they should be able to analyze the author's purpose and point of view. They should be able to use cultural and historical background information to develop perspectives on the text and be able to apply text information to broad issues and world situations.

When reading **practical text**, Advanced-level students should be able to synthesize information that will guide their performance, apply text information to new situations, and critique the usefulness of the form and content.

* * *

Grade 8: Advanced Level -- Literary Text

Eighth-grade students at the Advanced level were able to extend literary interpretations by relating personal knowledge to story themes, characters, and events. At least five questions at this level required students to interpret the theme or relate it to other story elements. In one multiple-choice question, 85 percent of Advanced students identified the group of words that best summarized the overall theme. In the first example question, students had to relate their understanding of a theme in a poem to their understanding of a situation described in another passage of a different genre. Seventy-nine percent of Advanced-level students made the connection, while only 33 percent of all eighth-grade students could do the same. In another question, 72 percent of the Advanced students successfully related the same poem's theme to a personal experience.

Generally, Advanced-level eighth graders demonstrated success interpreting underlying meanings and complexities of characters in stories. Five of the questions at this level dealt with some aspect of the characters. From 67 to 87 percent of students performed successfully on these questions. Three of these pertained specifically to some internal motivation or complexity of the characters' perspective or personality. One extended-response question asked students to compare characters in relation to the interpretation of a metaphor. Seventy-five percent of Advanced eighth graders provided at least essential information in answering this question. Another question asked students to describe story events that helped to portray the qualities of one character. In the most difficult of these questions (67 percent correct), students needed to draw on their understanding of the story's theme to describe a character's perspective.

Several questions asked students to describe the interactions between various literary elements. Responding to one such question, students explained how the use of a particular literary element affected both the meaning of a passage and the reader's response to it. They were asked why the Anne Frank story was written from the perspective of a Christian. Eighty-seven percent of the Advanced students provided an acceptable response describing the author's purpose. One extended constructed-response question asked students to provide a critical analysis of text. Eighty-four percent of the Advanced students provided at least partial responses to this question about how a poem contributed to their understanding of a short biographical sketch.

Grade 8: Advanced Level -- Informative Text

Eighth graders at the Advanced level responded to informative text with accuracy and understanding, and used their personal knowledge of culture and history to develop insightful perspectives on the passages. For example, 83 percent of Advanced students provided essential responses to the second example item in which they were required to integrate textual information with their own knowledge in providing a personal response. In comparison, students at the Proficient level were able to provide only partial responses to this same question.

Advanced-level eighth graders had considerable success in identifying an author's point of view about a particular subject. For one question, 87 percent constructed a response describing the author's perspective on the subject of a biographical article. They also were successful in applying text information to their own lives. For example, 88 percent of the Advanced students were able to describe one lesson that could be learned from an informative passage and 79 percent provided at least essential responses that required drawing conclusions from text and applying them to their own opinions.

In the upper range of performance at this level, Advanced-level students had some success constructing adequate summaries of an informative article. Sixty-six percent of these eighth graders provided at least essential responses to a question requiring this ability. Also, these students were beginning to consider the differences and similarities in various types of texts. Sixty-three percent provided at least essential information in response to a question comparing two passages that represented different genres -- one was an expository passage and the other was a narrative.

Among the most difficult questions for students at this level were those that required integrating specific knowledge from other subject areas with text information. When asked to identify a group of people or a historical figure who had an experience similar to one described in the text, 81 percent of Advanced students could provide responses that were rated only partial or better.

Grade 8: Advanced Level -- Practical Text

Eighth-grade students at the Advanced level showed they could read practical texts to perform tasks and to apply what they read to real-world situations or problems. They synthesized information such as complex directions and schedules and used multiple pieces of information from various locations within a document to complete a task and solve a real-world problem.

In writing a letter to their senator, 81 percent of Advanced-level students constructed a letter following all the specified guidelines. In addition, these students answered questions that made connections to real-world situations or applications of practical text. For example, they described how local weather conditions might affect the burial of a time capsule as described in practical text. Another illustration is Example 3, where students were asked to examine the bus schedule and draw fairly obvious conclusions. Seventy-three percent of the Advanced-level students wrote acceptable responses to this question, indicating their understanding of the validity of certain bus passes on various routes.

The ability to critique the usefulness of practical text and suggest improvements was not apparent, even at the Advanced level. Only 59 percent of these students could provide at least partial responses when asked to examine the bus schedule and make suggestions to improve it.

Anchor Descriptions of Twelfth Graders' Performance at the Basic, Proficient, and Advanced Achievement Levels

Grade 12 students...

Basic (269)	**... develop interpretations from a variety of texts, understand overall arguments, recognize explicit aspects of plot and characters, support global generalizations, respond personally to texts, use major document features to solve real-world problems.**

Twelfth-grade students at the Basic level can gain meaning and develop interpretations from a variety of *literary* works (i.e., first-person adventures, narrative poems, tales). They respond to literature in a straightforward manner and focus their interpretations on specific aspects of a story. They are able to recognize fairly explicit aspects of plot development and characterization. Students at this level demonstrate surface understanding of characters' motives and are able to understand and use dialogue in constructing meaning. They can focus their attention, gain meaning, and develop interpretations from a character's perspective as well as their own. They respond personally to particular portions of a piece and relate their responses to textual evidence.

Students at the Basic level are able to gain information and to understand specific issues as a result of reading a variety of *informative* texts (i.e., encyclopedia entries, journal accounts, textbook chapters, science periodicals, editorials, and biographical essays). Students can gain information from reading individual texts or multiple texts on the same topic. They are able to recognize general arguments and viewpoints. They can use information from across text segments to make and support global generalizations. They are able to recognize explicitly stated problems and their solutions, as well as important causal relationships. In addition, these students are able to evaluate the importance of a particular issue and formulate an opinion.

Twelfth grade students reading at the Basic level are able to respond to forms, schedules, and practical *documents* adhering to most directions or guidelines. Drawing on text clues, they recognize and are able to locate explicit information stated in a document. These students demonstrate an understanding of the use of labels to group ideas and mark sections within documents. They are able to infer the purpose for document guidelines and compare a task completed according to the guidelines with another related task. In addition, these students are able to use accompanying maps, legends, symbols, and timetables to solve real-world problems. Students at the basic level recognize the most obvious limitations of a document's applicability and present personal reactions in response to document information.

Grade 12 students...

Proficient (304)	**...integrate background experiences and knowledge with meaning from a variety of texts, interpret characters' motives, consider differing points of view, interpret literary devices, identify text structure and writing style, and apply document information to solve complex problems.**

Proficient readers are able to form interpretations and express overall responses to *literary* texts (i.e., first-person adventures, narrative poems, tales). Drawing on their personal knowledge, they can interpret characters' motives and feelings, perceive significant character traits, identify similarities between characters, as well as develop an understanding of evolving characterizations within a story. In addition, they are able to find textual evidence to support their assumptions about characters and their actions. By delving beneath surface language and events, Proficient readers are able to develop an understanding of the underlying intentions and communicative intent of dialogue. These readers integrate personal experiences with narrative or poetic elements and bring their real-world perceptions of the human condition to their literary interpretations. They are able to interpret figurative language and the symbolism suggested by major story elements.

Proficient readers are able to gain and to interpret relevant information from an individual *informative* passage or across multiple passages (i.e., encyclopedia entries, journal accounts, textbook chapters, science periodicals, editorials, and biographical essays). They are able to consider differing points of view in developing an understanding of text. They recognize the contributions of various texts in gaining overall understanding of a particular topic and are able to evaluate the credibility of different sources. Proficient readers demonstrate familiarity with informative genres by identifying organizational forms and recognizing patterns in writing style used by the author. They also demonstrate an understanding of the potential contribution of illustrations and captions to readers' comprehension and engagement. They are able to draw on background knowledge to interpret textual information and determine text reliability. Their responses to this type of text demonstrate an ability to analyze and make judgments about informative material.

Readers at the Proficient level demonstrate comprehension of moderately complex and specific instructions presented in practical *documents*, including forms and schedules. Their responses demonstrate a clear understanding of a document's purpose. They are able to search documents to locate specific information from major sections and highly embedded details. They exhibit strategies for extracting and applying document information in successfully completing a multistep task. These readers are able to suggest alternative approaches to task completion and make choices based on an appropriate interpretation of the document's main features. They are able to access and use tabular and graphic information in making generalizations and decisions about real-world problems. They understand the purpose of a particular document and are able to tell the importance of complying with the guidelines.

Grade 12 students...

Advanced (348)	**... construct complex understandings of multiple genres, interpret multidimensional aspects of characters, connect discipline-specific knowledge to text, examine author's devices, judge the value of informative sources, and suggest improvements for documents.**

Advanced students are able to construct more complex and abstract understandings of *literary* texts by integrating personal knowledge and experiences with textual ideas and events. They are able to connect ideas and to relate interpretations across multiple types of literary genre. They are able to interpret the significance of major story elements as well as draw on underlying meaning to develop a thorough understanding of an abstract theme. They consider non-explicit implications of language and dialogue within a literary piece. Drawing on their knowledge of human nature, they are able to interpret and describe nuances and multidimensional aspects of character relationships, feelings, and motives. They demonstrate an ability to examine their own personal understandings based on considerations of text meaning and real-world issues. They make use of their familiarity with literary elements to develop in-depth interpretations and examine critically the author's style and use of literary devices.

Students reading at the advanced level demonstrate the ability to synthesize and critically examine information presented in individual and multiple *informative* texts. They use information presented within a text to build overall understandings of conditions occurring across time. These readers can identify the significance of events and draw on general background experiences as well as discipline-specific knowledge to advance their understanding of information presented within text. They use genre-appropriate strategies to glean specific information, search for evidence to support generalizations, evaluate the credibility of multiple sources, and identify potentially different uses for information gained from different sources. They perceive ways in which a point of view is expressed in an author's language

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and make judgments about the author's intent. By considering a text's purpose, structure, and content, they are able to make and support judgments about its informative value.

Advanced readers demonstrate an ability to manage various organizational structures in accessing and applying information presented in *documents*, including forms and schedules. They are able to use specified directions and guidelines to complete highly detailed tasks. In addition, they are able to integrate text with graphic organizers in interpreting the meaning of written directions. These students are able to follow a series of complex steps specified by document directions in order to extract relevant information for a particular purpose. Based on a thorough examination of document text and structure, they make thoughtful and appropriate recommendations for improving the usefulness and presentation of information within a document.

Grade 12 Basic: Example 1 *The Battle of Shiloh*

[Two passages related to the battle of Shiloh were combined. One passage is an encyclopedia entry about the battle and the other passage is a narrative account of the battle from one soldier's perspective.]

Answers to this extended constructed-response question that were scored ***Partial or better*** *anchored at the Basic Achievement Level.*

Each account of the battle of Shiloh gives us information that the other does not. Describe what each account includes that is omitted by the other. Does this mean that both accounts provide a distorted perspective of what happened in the battle?

Responses to this item scored "Partial" provided accurate information from only one passage with or without an opinion about its perspective; or they provided information from both passages but stated no opinion about each perspective.

Overall Percentage at Partial or Better*: **84 (1.1)**

Conditional Percentage
Basic Level*: **78 (3.9)**

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* The standard errors of the estimated percentages appear in parentheses.

Grade 12 Basic: Example 2

Bus Schedule

[This task required students to read and use an actual bus schedule that included tables, maps, and text.]

The schedule is organized from top to bottom according to

→ **A** time of departure
B geographic location of the stop
C length of the bus ride
D alphabetical order of the destination

Overall Percentage Correct*: **80 (1.1)**

Conditional Percentage
Basic Level*: **75 (2.5)**

Grade 12 Basic: Example 3

Bus Schedule

[This task required students to read and use an actual bus schedule that included tables, maps, and text.]

If you need to transfer to connecting bus service 602, you can make the connection at which of the following transfer points?

A The Justice Complex
→ **B** The intersection of W. State Street and Warren Street
C The railroad station
D The intersection of Fairview Avenue and Barlow Street

Overall Percentage Correct*: **80 (1.2)**

Conditional Percentage
Basic Level*: **70 (3.9)**

---

* The standard errors of the estimated percentages appear in parentheses.

Grade 12 Basic: Example 4

Hired Man

[This passage is a narrative poem portraying the return of a destitute worker to the home of former employers.]

From your experience, do you think that most people would do what Mary did for Silas? Explain why or why not.

Acceptable answers provided an opinion that was supported by something from the student's experience. The answer also had to correctly state or imply that Mary tried to understand Silas' behavior or to see things from his perspective.

Overall Percentage Correct*: **76 (1.2)**

Conditional Percentage
Basic Level*: **66 (4.0)**

Grade 12 Proficient: Example 1

Battle of Lexington

[This passage contains excerpts from four different accounts with differing perspectives on the battle of Lexington -- two from primary source materials and two from secondary sources.]

For what purpose would someone want to read these four differing reports of the battle of Lexington?

Acceptable answers provided a reason that reflected understanding of the content or purpose of the passsages.

Overall Percentage Correct*: **68 (1.4)**

Conditional Percentage
Proficient Level*: **77 (2.9)**

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* The standard errors of the estimated percentages appear in parentheses.

Grade 12 Advanced: Example 1

Hired Man

[This passage is a narrative poem portraying the return of a destitute worker to the home of former employers.]

What are two types of relationships that Robert Frost explores in the poem?

Acceptable responses mention any two relationships that are described explicitly or implicitly in the poem (e.g., husband and wife, worker and boss, young and old...etc.)

Overall Percentage Correct*: **50 (1.9)**

Conditional Percentage Advanced Level*: **83 (4.4)**

Grade 12 Advanced: Example 2

Battle of Lexington

[This passage contains excerpts from four different accounts with differing perspectives of the battle of Lexington -- two from primary source materials and two from secondary sources.]

If you were writing a report on the battle of Lexington, which passage would you be most likely to use as a reliable source and why?

Acceptable answers indicated any of the four passages and provided appropriate support based on information included in the passage chosen.

Overall Percentage Correct*: **48 (2.1)**

Conditional Percentage Advanced Level*: **89 (8.9)**

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* The standard errors of the estimated percentages appear in parentheses.

Grade 12 Advanced: Example 3

Bus Schedule

[This task required students to read and use an actual bus schedule that included tables, maps, and text.]

Answers to this extended constructed-response question that were scored ***Partial or better*** *anchored at the Advanced Achievement Level.*

Now that you have looked carefully at the bus schedule, use your notes and make suggestions to help New Jersey Transit improve this schedule.

Responses to this item scored "Partial" provided only one specific suggestion for improving the schedule that demonstrated understanding of the content or use of the bus schedule.

Overall Percentage at Partial or Better*: **35 (1.3)**

Conditional Percentage
Advanced Level*: **74 (5.1)**

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* The standard errors of the estimated percentages appear in parentheses.

Twelfth-Grade Students' Performance at the Achievement Levels

BASIC LEVEL (269)	Twelfth-grade students performing at the **Basic level** *should be able to demonstrate an overall understanding and make some interpretations of the text.* When reading text appropriate to 12th grade, they *should be able to identify and relate aspects of the text to its overall meaning, recognize interpretations, make connections among and relate ideas in the text to their personal experiences, and draw conclusions.* They *should be able to identify elements of an author's style.*

For example, when reading **literary text**, 12th-grade students should be able to explain the theme, support their conclusions with information from the text, and make connections between aspects of the text and their own experiences.

When reading **informational text**, Basic-level 12th graders should be able to explain the main idea or purpose of a selection and use text information to support a conclusion or make a point. They should be able to make logical connections between the ideas in the text and their own background knowledge.

When reading **practical text,** they should be able to explain its purpose and the significance of specific details or steps.

* * *

Grade 12: Basic Level -- Literary Text

Twelfth-grade students at the Basic level were most successful in responding to questions about literary text that dealt with the explicit feelings or motivations of characters. Seventy-eight percent of Basic-level twelfth graders identified an explicit reference to a character's point of view and 75 percent provided a written explanation for characters' actions. However, in two questions, only 65 percent could interpret an underlying motivation for a character's actions when that motivation was implied rather than explicit in the text. One extended constructed-response question that asked students to predict the feelings of a character was answered with at least partial success by 74 percent of the Basic-level students.

The proportion of Basic-level twelfth graders able to identify an element of an author's style in one question was 72 percent. Also, 73 percent made a connection between aspects of the text and their own experiences by stating and supporting a personal opinion about part of a story. Another question that required relating a characterization to personal knowledge about human behavior was answered successfully by 66 percent of these students.

There was no evidence that students at this level could explain a theme or support conclusions with information from text. Both of these skills did emerge, however, at the higher achievement levels.

Grade 12: Basic Level -- Informative Text

Twelfth-grade students at the Basic level were able to gain information and to understand specific issues as a result of reading a variety of informative texts, including a rather lengthy article about a scientific study. Sixty-seven to 86 percent successfully explained the main idea or purpose of two newspaper editorials and a scientific article.

The twelfth graders at this level could use text information to support a conclusion or make a point with a brief written response. Ninety-three percent used explicit information from text to support a conclusion, while other similar questions were answered successfully by 68 to 86 percent of these students. However, when asked to provide extended responses using text information in support of a conclusion, Basic-level twelfth graders wrote answers that were rated only partial or better.

These students demonstrated at least an emerging ability to make connections between aspects of the text and their own experience. They used information from the text in relation to their own knowledge and experience to construct an appropriate understanding of what they read. Basic-level twelfth graders could formulate an opinion about the author of an editorial and support their judgment with text information. Also, 67 percent of them could make a direct connection to personal experience by explaining one lesson from an article that they could apply to their own life. Once again, these skills were most evident when students were writing brief responses to text. They provided answers rated partial or better to two of the extended constructed-response questions that required personal responses.

Other skills displayed by twelfth graders at this level included connecting ideas within text and recognizing important relationships. Seventy-five and 86 percent of Basic-level students successfully answered two questions asking students about causal relationships. However, these students had some difficulty when asked to connect ideas across two different texts, as in Example 1, where 78 percent provided answers that were rated only partial or better.

Grade 12: Basic Level - Practical Text

Twelfth-grade students at the Basic level could use information or directions to explain the purpose of a document and the importance of particular factual details or task procedures. They were successful with the parts of practical texts that involved step-by-step descriptions of a task and they appeared competent in using some graphic materials like maps, legends, symbols, and timetables.

Among the easiest tasks for students at this level was locating and extracting specific information from practical texts. On five such items, the number of Basic-level students responding successfully ranged from 66 to 98 percent. The most difficult of these required students to search through at least two sections of the text in order to find the information. Beyond simply locating information, these students could identify the organizational pattern of at least one document structure. Example 2 illustrates this skill, performed successfully by 75 percent of the Basic-level students.

Students at the Basic level also could perform straightforward tasks that were explained in text or required the use of information in text. For example, 79 percent used a timetable to identify the number of minutes it would take to ride between two points on a bus route. Also, in the third example item, 70 percent read map information to identify which point on a bus route was used for transfers to other bus services.

Basic-level twelfth graders explained the purpose for certain document guidelines and recognized the most obvious limitations of a document's applicability. Specifically, 72 percent inferred the usefulness of numbered lines on a tax form, 68 percent identified the limited scope of a particular bus schedule's applicability, and 66 percent described why one part of the instructions for writing a letter was important. Eighty-one percent of these students expressed a personal reaction to the information in one practical text and provided appropriate support for their opinions.

PROFICIENT LEVEL (304)	Twelfth-grade students performing at the **Proficient level** *should be able to show an overall understanding of the text which includes inferential as well as literal information.* When reading text appropriate to 12th grade, they *should be able to extend the ideas of the text by making inferences, drawing conclusions, and making connections to their own personal experiences and other readings. Connections between inferences and the text should be clear, even when implicit.* These *students should be able to analyze the author's use of literary devices.*

When reading **literary text**, Proficient-level 12th graders should be able to integrate their personal experiences with ideas in the text to draw and support conclusions. They should be able to explain the author's use of literary devices such as irony or symbolism.

When reading **informative text,** they should be able to apply text information appropriately to specific situations and integrate their background information with ideas in the text to draw and support conclusions.

When reading **practical text**, they should be able to apply information or directions appropriately. They should be able to use personal experiences to evaluate the usefulness of text information.

* * *

Grade 12: Proficient Level -- Literary Texts

When reading literary passages, twelfth graders at the Proficient level were able to relate their own experiences to ideas and concepts in texts. They appeared to be equally successful with different types of literary passages -- a story set in a historically different period, an adventure story, and a narrative poem (the poem, "Hired Man," appears in Appendix D). Nearly half of the literary items at this level were regular constructed-response questions, providing some indication of the increasing ability of Proficient-level twelfth graders to express their understanding of texts in written responses.

In responding to literature, twelfth graders at this level demonstrated their ability to extend the ideas of the text by drawing on their personal knowledge to make inferences and draw conclusions. This ability was evident in their responses to at least two questions. In one, 78 percent drew conclusions about the nature of the relationship between characters based on their personal knowledge of human relationships. In a more difficult question requiring analysis of a character's implicit motivation, 65 percent of these students used their understanding of human interactions to make acceptable interpretations.

Proficient-level twelfth graders performed strongly on questions that involved aspects of characters. Integrating their personal experiences with text meaning, they were able to interpret characters' motives and feelings, perceive significant character traits, identify similarities between characters, and develop an understanding of evolving characterizations within a story. In the six items that tapped understanding of characters and their roles, 65 to 82 percent of the

Proficient-level students had successful performance. One of these required students to delve beneath surface language and interpret the communicative intent of dialogue. In a more difficult question, 65 percent of these students were able to infer the underlying meaning of characters' dialogue.

Students at this level were beginning to recognize the use of certain literary devices. Sixty-nine percent adequately interpreted the symbolism of a major story element and 80 percent provided examples of descriptive language in a poem.

Grade 12: Proficient Level -- Informative Text

Twelfth graders at the Proficient level were able to apply information they read to a particular situation by linking what they knew from prior experiences and readings to the ideas and facts in the text. Example 1 illustrates this ability. Here, 77 percent of the Proficient students described a situation in which the four passages (see Appendix D, "Battle of Lexington") presented would be useful. In addition, two very similar questions about the use of informative texts were answered successfully by 77 and 88 percent of these students.

There was considerable evidence that students at this level could integrate background information with ideas in the text to draw and support conclusions. One item required students to use their understanding of human nature to identify a pattern of behavior being described in a passage. Seventy-seven percent of Proficient-level students were successful with this item. On two similar items calling for more of an inference about events in the passage, 73 percent responded accurately.

Other responses provided by students at this level demonstrated an ability to analyze and make judgments about informative material. For instance, they recognized the contributions of various texts in gaining overall understanding of a particular topic and they evaluated the credibility of different sources. Performance on the three items that explicitly involved analysis and evaluation of text ranged from 72 to 76 percent. One of these required an extended constructed-response, and 72 percent provided partial or better responses. Demonstrating their understanding of certain informative text features, 81 percent described how pictures and captions may contribute to the comprehension and engagement of readers. A more difficult question asked students to describe how two accounts of the same historical event differed in perspective and type of information. Sixty-five percent of Proficient-level students provided answers that were complete and accurate, earning an essential or better rating.

Twelfth graders were asked to develop a summary of a historical event based on two passages that represented different perspectives of that event (see Appendix D, "Battle of Shiloh"). At the Proficient level, 70 percent of the students drew on the different types of information in both passages in constructing their overall summaries, demonstrating essential or better comprehension.

Grade 12: Proficient Level -- Practical Text

Twelfth-grade students at the Proficient level demonstrated comprehension of moderately complex and specific instructions presented in practical texts, including forms and schedules. They demonstrated an ability to read and follow directions and to interpret practical passages appropriately in order to solve a problem or attempt a particular task.

Students at this level located relevant information and specific details in practical text. Seventy-two percent to 78 percent of the students answered three such questions acceptably. An additional item that required more extensive searching and interpretation of somewhat ambiguous instructions was answered correctly by 65 percent of these students.

Many responses at this level demonstrated students' understanding of a document's purpose -- 75 percent of Proficient-level students identified the purpose of a tax table and 74 percent could understand the basis for determining the amount of tax owed. An emerging skill at this level was the ability to integrate instructions in a practical text to produce an acceptable product. After reading instructions for writing a letter to a senator, 67 percent of Proficient-level students were able to adhere to most guidelines and produce a letter that could receive a response.

When asked to identify the usefulness of text in particular situations, some Proficient-level students (65 percent) were able to give acceptable answers. However, students at this level did not adequately demonstrate the ability to evaluate the usefulness of practical text information, although they were given the opportunity with a bus schedule.

ADVANCED LEVEL (348)	Twelfth-grade students performing at the **Advanced level** *should be able to describe more abstract themes and ideas in the overall text.* When reading text appropriate to 12th grade, they *should be able to analyze both the meaning and the form of the text and explicitly support their analyses with specific examples from the text.* They *should be able to extend the information from the text by relating it to their experiences and to the world.* Their *responses should be thorough, thoughtful, and extensive.*

For example, when reading **literary text**, Advanced-level 12th graders should be able to produce complex, abstract summaries and theme statements. They should be able to use cultural, historical, and personal information to develop and explain text perspectives and conclusions. They should be able to evaluate the text, applying knowledge gained from other texts.

When reading **informational text**, they should be able to analyze, synthesize, and evaluate points of view. They should be able to identify the relationship between the author's stance and elements of the text. They should be able to apply text information to new situations and to the process of forming new responses to problems or issues.

When reading **practical texts,** Advanced-level 12th graders should be able to make a critical evaluation of the usefulness of the text and apply directions from the text to new situations.

* * *

Grade 12: Advanced Level -- Literary Text

Advanced twelfth-grade students constructed more complex and abstract understandings of literary texts by integrating personal knowledge and experiences with textual ideas and events. They connected ideas and related interpretations across multiple types of literary genres. All of the literary questions at this level involved some degree of interpretation or extension of meaning beyond surface understandings, typically requiring students to interpret and describe underlying meanings, nuances of characterizations, and the author's use of literary devices.

Advanced-level students demonstrated an ability to construct summaries or descriptions of major story elements. Seventy-seven percent were able to identify and describe a major conflict in a story that had a relatively complex and abstract theme. Also, as illustrated in Example 1, 83 percent were able to stand apart from a narrative poem and describe two relationships explored by the poet.

Drawing on their knowledge of human nature, Advanced-level students were able to interpret and describe multidimensional aspects of character relationships, feelings, and motivations. Eighty-one percent successfully described the hidden implication of one character's dialogue. In a similar question that called for an understanding that literary dialogue can carry more than one level of meaning, 71 percent were successful. In both cases, it was necessary for students to draw on personal knowledge to develop and explain text perspectives and conclusions.

Twelfth graders at this level also used their familiarity with literary elements to develop in-depth interpretations and critically examine the author's style. On an extended question that required them to become familiar enough with a writer's style to consider possible language choices, 80 percent provided written answers complete and thoughtful enough to show evidence of at least essential comprehension. In addition, 83 percent of these students described differences in language, tone, or theme between a story and a poem.

Although students were not asked explicitly to use cultural or historical information in responding to text, one story was set in an unfamiliar cultural and historical period. Their responses indicated that Advanced-level twelfth graders were able to construct and extend meaning from even this more complex passage. In addition, when these students encountered representations of regional dialect in a narrative poem, 71 percent to 90 percent were able to construct meaning from characters' dialogue as demonstrated in at least three questions at this level.

Grade 12: Advanced Level -- Informative Text

Twelfth-grade students at the Advanced level synthesized and critically examined information presented in individual and multiple informative texts. They constructed comprehensive summaries of different types of informative materials, identified the significance of supporting ideas, and drew on general background experiences, as well as discipline-specific knowledge, to enhance their understanding of information presented within text.

Advanced-level twelfth graders demonstrated that they could analyze and evaluate the point of view expressed in an informative piece. Eighty-four percent identified what aspect of an author's language most clearly displayed the author's stance on a particular issue. Seventy-two percent of Advanced-level twelfth graders adequately analyzed the author's tone in an article as an indication of the author's intent and provided support for their analysis. In addition, seventy-four percent provided written responses that were considered thorough, thoughtful, and extensive when asked to evaluate the usefulness of two passages with different perspectives and to describe what information was provided by one and not the other.

The number of questions requiring students to use text information in new situations was limited. However, at least one item required applying text information to situations beyond the passage. This is illustrated in Example 2, where 82 percent of the students were able to read four passages and explain why one of the passages would be the most useful for writing a report.

Other abilities demonstrated at the Advanced level included comparing and contrasting text information with background knowledge and synthesizing ideas across the passage. Specifically, when students were asked to compare information provided in a passage about whales with what they knew about human behavior, 87 percent provided complete responses. Also, in two instances, they synthesized information across a text and constructed summaries that reflected understanding of the entire piece. Seventy-eight percent and 83 percent of Advanced-level students displayed essential or better performance on these two extended constructed-response questions.

Grade 12: Advanced Level -- Practical Text

Twelfth graders at the Advanced level dealt effectively with practical texts and managed various organizational structures in accessing and applying information presented in documents, including forms and schedules. They demonstrated the ability to both evaluate and apply directions completely and accurately. In doing so, they were required to integrate text with graphic organizers and follow a series of complex steps.

Advanced-level twelfth graders used headings and labels in documents to identify a section of text that contained relevant information. One question that explicitly required this skill was answered successfully by 78 percent of these students. In another task, students not only had to locate specific information, but also had to infer the meaning of text in order to provide an accurate response. Seventy-six percent of the Advanced-level students demonstrated this ability.

These students described real-world situations that would be appropriate for using the practical text they read. Successful performance on the two items requiring this ability was achieved by 73 and 77 percent of the students respectively. In addition, Advanced-level twelfth graders were beginning to critically evaluate documents and provide suggestions for improving them. Example 3 required an extended review of a bus schedule in order to provide suggestions for making it a better document. Seventy-four percent of the students at this level provided at least one suggestion.

Two quite different questions performed successfully by students at this level required following directions with accuracy and thoroughness in completing a task. One of these involved writing a letter to a senator based on specified guidelines in the text. Eighty-two percent of the Advanced-level students provided thorough and extensive responses to this task. Their letters not only met the basic guidelines, but displayed careful attention to suggestions made in the text about aspects of form and content. The second task performed by students at this level was a very practical, and yet a rather complex one -- completing a tax form. Seventy-six percent of Advanced-level twelfth graders were able to follow the directions that accompanied the form in order to complete the document in a manner that would allow it to be processed. Although minor errors in the form may have been noted, they were not the type that would delay the processing of the tax form.

APPENDIX B

Overview of Procedures Used in NAEP's 1992 Reading Assessment

Introduction

This appendix provides further information about the methods and procedures used in NAEP's 1992 reading assessment. The forthcoming *NAEP 1992 Technical Report* and the *Technical Report for the 1992 Reading Trial State Assessment* provide more extensive information about procedures.

NAEP's Reading Assessment Framework

As described earlier in the report, the framework underlying NAEP's 1992 reading assessment was newly developed under the direction of the National Assessment Governing Board through a consensus process managed by the Council of Chief State School Officers. The content questions, the majority of which require students to construct their own responses, and the background questionnaires were developed through a similarly broad-based process managed by Educational Testing Service. The development of the 1992 reading assessment, including the Trial State Assessment Program at grade 4, benefited from the involvement of hundreds of representatives from State Education Agencies who attended numerous NETWORK meetings; served on committees; reviewed the framework, objectives, and questions; and in general, provided important suggestions on all aspects of the program.

The aspects of reading literacy covered in the *NAEP Reading Framework* are summarized in FIGURE B.1 on the following page.[57] TABLES B.1 and B.2 show the approximate percentage distribution of questions for the 1992 reading assessment by reading purpose, reading stance, and grade.

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[57] *Reading Framework for the 1992 National Assessment of Educational Progress* (Washington, DC: National Assessment Governing Board, U.S. Department of Education, U.S. Government Printing Office).

FIGURE B.1 1992 NAEP Framework-Aspects of Reading Literacy

	Constructing, Extending, and Examining Meaning			
	Initial Understanding	**Developing an Interpretation**	**Personal Reflection and Response**	**Demonstrating a Critical Stance**
	Requires the reader to provide an initial impression or unreflected understanding of what was read.	Requires the reader to go beyond the initial impression to develop a more complete understanding of what was read.	Requires the reader to connect knowledge from the text with his/her own personal background knowledge. The focus here is on how the text relates to personal knowledge.	Requires the reader to stand apart from the text and consider it.
Reading for Literary Experience	What is the story/plot about?	How did the plot develop?	How did this character change your idea of ______?	Rewrite this story with ____as a setting or ____as a character.
	How would you describe the main character?	How did this character change from the beginning to the end of the story?	Is this story similar to or different from your own experiences?	How does this author's use of _____(irony, personification, humor) contribute to _____?
Reading for Information	What does this article tell you about ________?	What caused this event?	What current event does this remind you of?	How useful would this article be for ______? Explain.
	What does the author think about this topic?	In what ways are these ideas important to the topic or theme?	Does this description fit what you know about _______? Why?	What could be added to improve the author's argument?
Reading to Perform a Task	What is this supposed to help you do?	What will be the result of this step in the directions?	In order to _______, what information would you need to find that you don't know right now?	Why is this information needed?
	What time can you get a non-stop flight to X? (Search)	What must you do before this step?	Describe a situation where you could leave out step X.	What would happen if you omitted this?

Some questions require making linkages across parts of a text, or between texts using either personal reflection, critical stance, or both.

Fluency-Special study of how well students read orally.

Strategic Behaviors and Knowledge about Reading-When you have difficulty understanding what you are reading, what do you do?

Reading Habits and Practices-Have you read a book for enjoyment in the last week? Do you have a library card for your public library?

TABLE B.1 **Target and Actual Percentage Distribution of Questions by Grade and Reading Purpose**

Reading Purpose	Grade 4		Grade 8		Grade 12	
	Target	Actual	Target	Actual	Target	Actual
Literary	55	50	40	36	35	33
Informational	45	50	40	36	45	42
Perform a Task	N/A	N/A	20	28	20	25

TABLE B.2 **Target and Actual Percentage Distribution of Questions by Grade and Reading Ability**

Reading Stance	Grade 4		Grade 8		Grade 12	
	Target	Actual	Target	Actual	Target	Actual
Initial Understanding and Developing an Interpretation	33	39	33	44	33	39
Personal Response	33	27	33	22	33	23
Critical Stance	33	34	33	34	33	38

Actual percentages are based on the classifications agreed upon by NAEP's 1992 Item Development Committee. It is recognized that making discrete classifications is difficult for these categories and that independent efforts to classify NAEP questions have led to different results.[58] Also, it had been found that developing personal response questions that are considered equitable across students' different backgrounds and experiences is difficult.

The Assessment Design

Each student received an assessment booklet containing a set of general background questions, reading passages and content questions, a set of subject-specific background questions, and a set of questions about his or her motivation and familiarity with the assessment materials. The same booklets were used in both the national and trial state assessments. The passages and content questions were assembled into sections or blocks, each containing a passage or passages and the corresponding questions. Students were given either two 25-minute blocks or one 50-minute block.

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[58] *Assessing Student Achievement in the States.* The First Report of the National Academy of Education Panel on the Evaluation of the NAEP Trial State Assessment: 1990 Trial State Assessment (Stanford, CA: National Academy of Education, 1992).

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At grade 4, the assessment consisted of eight 25-minute blocks, each containing a passage and about 10 multiple-choice and constructed-response questions. Each block contained one extended-response question. Four of the blocks were based on literary passages and four on informational materials. The special interview study of a subsample of fourth graders was only conducted in conjunction with the national assessment. Called the Integrated Reading Performance Record (IRPR), this special study consisted of an interview with individual students in which they discussed their independent reading, read aloud, provided oral responses to several constructed-response questions included in the written portion of the assessment, and described their classroom work based on examples they brought to the interview. The findings of the special IRPR study will be included in a future report.

At grades 8 and 12, the assessment consisted of nine 25-minute blocks, each containing a passage and 10 to 15 multiple-choice and constructed-response questions. Similar to grade 4, each block contained at least one extended-response question. Three of the blocks were based on literary passages, three on informational materials, and three on materials related to performing a task. In addition, at grade 8 there were two 50-minute blocks -- one literary and one informational, and at grade 12 there were three such blocks -- one literary and two informational. These blocks were based on more extensive texts or provided opportunities for students to compare and contrast materials, and included several extended-response questions. The 50-minute block assessing literary experience at both grades 8 and 12 was based on a compendium of short stories called "The NAEP Reader," from which students selected a story to read and then answered questions about it. Because students were given the opportunity to exercise self-selection skills, there is, of course, an interaction between these skills, the story they selected, and their assessment performance. Therefore, these data were not included as part of the 1992 NAEP reading scale reported herein, but will be included in a future report.

At grade 4, the assessment consisted of 85 questions, of which 35 required short-constructed responses and 8 required extended-responses. At grade 8, there were 135 questions, 63 of which were regular constructed-response and 16 of which were extended-response. The grade 12 assessment contained 145 questions, of which 67 were regular constructed-response and 19 were extended-response. These counts do not include the 12 constructed-response questions associated with "The NAEP Reader" at both grades 8 and 12.

Students received different blocks of content questions in their booklets according to a specific design. The 1992 assessment was based on an adaptation of matrix sampling called balanced incomplete block (BIB) spiraling -- a design that enables broad coverage of reading content while minimizing the burden for any one student. The balanced incomplete block part of the design assigns the blocks of questions to booklets in a way that provides for position effect, complete balancing within each reading purpose, and partial balancing across reading purposes. The spiraling part of the method cycles the booklets for administration, so that typically only a few students in any assessment session receive the same booklet.

Teacher and School Questionnaires

As part of the 1992 reading assessment, including the Trial State Assessment Program, questionnaires about instruction were given to the teachers responsible for teaching reading to the fourth-grade students participating in the assessment. Also, a questionnaire was completed by the principal or another administrator in each participating school about school policies, priorities, and resources, among other topics. An expert panel developed guidelines for the teacher and school questionnaires focusing on five educational areas: instructional content, instructional practices and experiences, teacher characteristics, school conditions and contexts, and conditions outside the school (i.e., home support, out-of-school activities, and attitudes).[59]

The questionnaire for students' language arts/reading teacher consisted of two parts. The first requested information about the teacher, such as race/ethnicity and gender as well as academic degrees held, teaching certification, training in reading, and ability to get instructional resources. In the second part, teachers were asked to provide information on each class they taught that included one or more students who participated in the assessment. The information included, among other things, the amount of time spent on reading instruction and homework, the extent to which textbooks or worksheets were used, the instructional emphasis placed on different aspects of reading, and the use of various instructional approaches.

Because the sampling for the teacher questionnaires was based on participating students, the teachers' questionnaire responses do not necessarily represent all fourth-grade teachers of reading in the nation, or in a state or territory. Rather, they represent teachers of the representative sample of students assessed. It is important to note that in this report, as in all NAEP reports, the student is always the unit of analysis, even when information from the teacher or school questionnaire is being reported. Using the student as the unit of analysis makes it possible to describe the instruction received by representative samples of students. Although this approach may provide a different perspective from other studies simply reporting information about teachers or schools, it is consistent with NAEP's goal of providing information about the educational context and performance of students.

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[59] National Assessment of Educational Progress, *1992 Policy Information Framework* (Princeton, NJ: National Assessment of Educational Progress, Educational Testing Service, 1992).

National Sampling

Sampling and data collection activities for the 1992 NAEP assessment were conducted by Westat, Inc. In 1992, the assessment was conducted from January through March, with some make-up sessions in early April.

As with all NAEP national assessments, the results for the national samples were based on a stratified, three-stage sampling plan. The first stage included defining geographic primary sampling units (PSUs), which are typically groups of contiguous counties, but sometimes a single county; classifying the PSUs into strata defined by region and community type; and randomly selecting PSUs. For each grade, the second stage included listing, classifying, and randomly selecting schools, both public and private, within each PSU selected at the first stage. The third stage involved randomly selecting students within a school for participation. Some students who were selected (about 7 to 8 percent) were excluded because of limited English proficiency or severe disability.

TABLE B.3 presents the student and school sample sizes and the cooperation and response rates for the national assessment.

TABLE B.3 1992 Student and School Sample Sizes

	Number of Participating Schools	Percent of Schools Participating	Number of Students	Percent of Student Completion
Grade				
4	527	86	6,314	93
8	587	84	9,464	89
12	468	81	9,856	81
Total	1,582		25,634	

Although sampled schools that refused to participate were occasionally replaced, school cooperation rates were computed based on the schools originally selected for participation in the assessments. The rates, which are based on schools sampled for all subjects assessed in 1992 (reading, writing, and mathematics) are also the best estimates for the reading assessment. The student completion rates represent the percentage of students assessed of those invited to be assessed in reading, including those assessed in follow-up sessions, when necessary. Of the participating schools, 944 were public schools, and 638 were Catholic and other private schools.

Trial State Assessment Sampling

For the 43 jurisdictions participating in the 1992 Trial State Assessment Program, the basic design for each grade was to select a sample of 100 public schools from each state, with a sample of 30 students drawn from each school. For states with small numbers of schools, and no or very few small schools, all schools were included in the sample with certainty. In the fourth grade, all the eligible fourth-grade schools in the District of Columbia, Delaware, and Guam were taken into the sample with certainty.

In states where a sample of schools was drawn, schools were stratified by urbanicity, minority strata (which varied by state and urbanicity level), and median income. Special procedures were used for small schools and for identifying and including new schools in the sampling frame for each jurisdiction. To minimize the potential for nonresponse bias, substitutes for nonparticipating schools were selected on a one-by-one basis to be similar to the original school in terms of urbanicity, percent Black enrollment, percent Hispanic enrollment, median household income, and total fourth-grade enrollment. Furthermore, the substitute school was selected from the same district whenever possible.

In Guam and the Virgin Islands, all grade-eligible students were targeted for inclusion in the assessment.[60] In the remaining jurisdictions, a systematic equal probability sample of the desired number of students (usually 30, but sometimes more) was drawn from each school, typically yielding a sample size in excess of 2,500 students at each grade for each participating state and territory. Representative samples of approximately 600 to 700 public-school fourth graders in each participating state and territory responded to each question or task. The state assessments were conducted during February.

Participation Rates for States and Territories

Detailed information about school and student participation rates for each of the 41 participating states, the District of Columbia, and Guam is contained in TABLES B.4 through B.9. These tables also contain comparable information for the national and regional subsamples used in this report as a basis for comparison to states and territories. More specifically, these results are based only on students attending public schools (not private schools). The guidelines for receiving notations about participation are presented below. Consistent with NCES statistical standards,[61] weighted data have been used to calculate all participation rates. A discussion of the variation in participation rates is found in the *Technical Report of the 1992 Trial State Assessment in Reading*.

Since 1989, state representatives, the National Assessment Governing Board (NAGB), several committees of external advisors to the National Assessment of Educational Progress (NAEP), and the National Center for Education Statistics (NCES) have engaged in numerous discussions about the procedures for reporting the NAEP Trial State Assessment results. As part of these discussions, it was recognized that sample participation rates across the states and territories have to be uniformly high to permit fair and valid comparisons. Unless the overall participation rate is high for a state or territory, there is a risk that the assessment results for that jurisdiction are subject to appreciable nonresponse bias. Moreover, even if the overall participation rate is high, there may be significant nonresponse bias if the nonparticipation that does occur is heavily concentrated among certain classes of schools or students.

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[60] In Guam, students participated in both assessments. In the Virgin Islands, half the fourth graders were assigned to the mathematics assessment and half to reading.

[61] *NCES Statistical Standards*, NCES 92-021 (Washington DC: National Center for Education Statistics, U.S. Department of Education, 1992).

Therefore, NCES established four guidelines for school and student participation in the 1990 Trial State Assessment Program.

For the 1992 Trial State Assessment, NCES decided to continue to use those four guidelines, two relating to school participation -- one for overall sample participation and the other for classes of students -- and two relating to student participation -- one for overall sample participation and the other for classes of students. The guidelines are based on the standards for sample surveys that are set forth in the *NCES Statistical Standards*. Three of the guidelines for the 1992 program are identical to those used in 1990, while the guideline for overall school participation has been modified.

Those states receiving notations for not satisfying the guideline about overall school participation rates included Maine, Nebraska, New Hampshire, New Jersey, and New York. These five states as well as Delaware failed to meet the guideline about minimum participation rates for classes of schools with similar characteristics. Therefore, these six states are designated with asterisks in the tables and figures containing state-by-state results. All participants met or exceeded the two student participation guidelines about overall student participation rates and minimum participation rates for classes of students with similar characteristics.

The results of further study of participation rates for entities that failed to meet the sample participation guidelines are presented in the *Technical Report of the 1992 Trial State Assessment in Reading*. Evidence of significant nonresponse bias was not detected for any state. However, the participation rate data are presented so that readers of the report can accurately assess the quality of the data being presented.

The Sample Participation Guidelines

The following notations concerning school and student participation rates in the Trial State Assessment Program were established to address four significant ways in which nonresponse bias could be introduced into the jurisdiction sample estimates. The four conditions that will result in a state or territory receiving a notation in the 1992 reports are presented below. Note that in order to receive no notations, a state or territory must satisfy all four guidelines.

A jurisdiction will receive a notation if:

1. Both the state's weighted participation rate for the initial sample of schools was below 85 percent AND the weighted school participation rate after substitution was below 90 percent; OR the weighted school participation rate of the initial sample of schools was below 70 percent (regardless of the participation rate after substitution).

Discussion: For states or territories that did not use substitute schools, the participation rates are based on participating schools from the original sample. In these situations, the NCES standards specify weighted school participation rates of at least 85 percent to guard against potential bias due to school nonresponse. Thus, the first part of the notation that refers to the weighted school participation rate for the initial sample of schools is in direct accordance with NCES standards.

To help ensure adequate sample representation for each jurisdiction participating in the 1992 Trial State Assessment Program, NAEP provided substitutes for nonparticipating schools. When possible, a substitute school was provided for each initially selected school that declined participation before November 15, 1991. For states or territories that used substitute schools, the assessment results will be based on the student data from all participating schools from both the original sample and the list of substitutes (unless both an initial school and its substitute eventually participated, in which case only the data from the initial school was used).

The NCES standards do not explicitly address the use of substitute schools to replace initially selected schools that decide not to participate in the assessment. However, considerable technical consideration was given to this issue. Even though the characteristics of the substitute schools were matched as closely as possible to the characteristics of the initially selected schools, substitution does not entirely eliminate bias due to the nonparticipation of initially selected schools. Thus, for the weighted school participation rates including substitute schools, the guideline was set at 90 percent.

Finally, if the jurisdiction's school participation rate for the initial sample of schools is below 70 percent, even if the rate after substitution exceeds 90 percent, there is a substantial possibility that, in aggregate, the substitute schools are not sufficiently similar to the schools that they replaced to assure that there is negligible bias in the assessment results. The last part of this guideline takes this into consideration.

A jurisdiction will receive a notation if:

2. The nonparticipating schools included a class of schools with similar characteristics, which together accounted for more than five percent of the state's total fourth-grade weighted sample of public schools. The classes of schools from each of which a state needed minimum school participation levels were determined by urbanicity, minority enrollment, and median household income of the area in which the school is located.

Discussion: The NCES standards specify that attention should be given to the representativeness of the sample coverage. Thus, if some important segment of the jurisdiction's population is not adequately represented, it is of concern, regardless of the overall participation rate.

This notation addresses the fact that, if nonparticipating schools are concentrated within a particular class of schools, the potential for substantial bias remains, even if the overall level of school participation appears to be satisfactory. Nonresponse adjustment cells have been formed within each jurisdiction, and the schools within each cell are similar with respect to minority enrollment, urbanicity, and/or median household income, as appropriate for each jurisdiction.

If more than five percent (weighted) of the sampled schools (after substitution) are nonparticipants from a single adjustment cell, then the potential for nonresponse bias is too great. This guideline is based on the NCES standard for stratum-specific school nonresponse rates.

A jurisdiction will receive a notation if:

3. **The weighted student response rate within participating schools was below 85 percent.**

Discussion: This guideline follows the NCES standard of 85 percent for overall student participation rates. The weighted student participation rate is based on all eligible students from initially selected or substitute schools who participated in the assessment in either an initial session or a make-up session. If the rate falls below 85 percent, then the potential for bias due to students' nonresponse is too great.

A jurisdiction will receive a notation if:

4. **The nonresponding students within participating schools included a class of students with similar characteristics, who together comprised more than five percent of the state's weighted assessable student sample. Student groups from which a state needed minimum levels of participation were determined by age of student and type of assessment session (unmonitored or monitored), as well as school urbanicity, minority enrollment, and median household income of the area in which the school is located.**

Discussion: This notation addresses the fact that if nonparticipating students are concentrated within a particular class of students, the potential for substantial bias remains, even if the overall student participation level appears to be satisfactory. Student nonresponse adjustment cells have been formed using the school-level nonresponse adjustment cells, together with the student's age and the nature of the assessment session (unmonitored or monitored). If more than five percent (weighted) of the invited students who do not participate in the assessment are from a single adjustment cell, then the potential for nonresponse bias is too great. This guideline is based on the NCES standard for stratum-specific student nonresponse rates.

TABLE B.4 | School Participation Rates, Grade 4, 1992 Reading Assessment

PUBLIC SCHOOLS	Weighted Percentage School Participation Before Substitution	Weighted Percentage School Participation After Substitution	Number Schools in Original Sample	Number Schools Not Eligible	Number Schools in Original Sample That Participated	Number Substituted Schools Provided	Number Substituted Schools That Participated	Total Number Schools That Participated
NATION	86	87	284	2	247	7	2	249
Northeast	80	80	56	0	46	1	0	46
Southeast	92	93	70	1	65	1	1	66
Central	92	92	64	0	59	0	0	59
West	82	83	94	1	77	5	1	78
STATES								
Alabama	76	97	112	3	82	25	23	105
Arizona[4]	99	99	107	1	106	0	0	106
Arkansas[4]	87	96	120	2	105	12	11	116
California	92	97	115	3	103	6	6	109
Colorado	100	100	124	2	122	0	0	122
Connecticut	99	99	113	4	108	0	0	108
Delaware[2] [3]	92	92	56	6	44	0	0	44
Dist. Columbia	99	99	118	4	113	0	0	113
Florida	100	100	111	1	110	0	0	110
Georgia	100	100	109	2	107	0	0	107
Hawaii	100	100	106	0	106	0	0	106
Idaho	82	96	123	1	100	19	15	115
Indiana	77	92	116	2	88	24	16	104
Iowa	100	100	133	4	129	0	0	129
Kentucky[4]	94	97	124	3	116	3	3	119
Louisiana	100	100	115	4	111	0	0	111
Maine[1] [2] [4] [5]	58	71	141	1	76	41	20	96
Maryland	99	99	112	1	110	1	0	110
Massachusetts	87	97	123	4	103	12	11	114
Michigan[4]	83	90	116	3	92	17	8	100
Minnesota[5]	81	94	116	5	91	15	13	104
Mississippi	98	100	110	3	105	2	2	107
Missouri	90	97	123	6	105	9	9	114
Nebraska[1] [2]	76	87	161	7	106	41	15	121
New Hampshire[1] [2] [4] [5]	68	81	128	4	83	34	17	100
New Jersey[1] [2]	76	82	121	4	89	23	7	96
New Mexico[4] [5]	76	91	114	1	84	26	18	102
New York[1] [2] [4]	78	84	110	0	86	21	7	93
North Carolina[4]	95	99	118	2	111	5	5	116
North Dakota	70	91	133	3	97	33	23	120
Ohio	78	91	121	1	93	21	15	108
Oklahoma	86	98	130	0	115	14	13	128
Pennsylvania	85	95	119	0	102	17	12	114
Rhode Island	83	96	114	5	89	15	15	104
South Carolina	98	99	112	1	109	1	1	110
Tennessee	93	94	120	1	110	8	1	111
Texas	92	97	111	3	98	5	5	103
Utah	99	99	110	1	108	0	0	108
Virginia	99	99	118	4	113	0	0	113
West Virginia	100	100	144	7	137	0	0	137
Wisconsin[4]	99	99	127	5	122	0	0	122
Wyoming	97	97	158	6	148	0	0	148
TERRITORY								
Guam[3]	100	100	21	0	21	0	0	21

See explanations of the notations and guidelines about sample representativeness and for the derivation of weighted participation. [1] Both the state's weighted participation rate for the initial sample of schools was below 85% AND the weighted school participation rate after substitution was below 90%; OR the weighted school participation rate of the initial sample of schools was below 70% (regardless of the participation rate after substitution.) [2] The nonparticipating schools included a class of schools with similar characteristics, which together accounted for more than five percent of the state's total fourth- or eighth-grade weighted sample of public schools. The classes of schools from each of which a state needed minimum school participation levels were determined by urbanicity, minority enrollment, and median household income of the area in which the school is located. [3] The Trial State Assessment was based on all eligible schools. There was no sampling of schools. [4] In one or more schools an assessment was conducted, but either the wrong materials were sent to the school(s) or the materials were lost in shipping via the U.S. Postal Service. The school(s) are included in the counts of participating schools, both before and after substitution. However, in the weighted results, the school(s) are treated in the same manner as a nonparticipating school because no student responses were available for analysis and reporting. [5] One or more schools in the original sample initially declined and then decided to participate after their substitute(s) had also agreed to participate. Further, assessments were conducted in both the original and substitute schools. For these cases the substitute school is included in the number of substitute schools provided and in the number of substitute schools participating. The state's estimates will be based on the student responses from the original school only.

SOURCE: National Assessment of Educational Progress (NAEP), 1992 Reading Assessment.

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TABLE B.5 | Student Participation Rates, Grade 4, 1992 Reading Assessment

PUBLIC SCHOOLS	Weighted Percentage Student Participation After Make-ups	Number Students Original Sample	Number Students Supplemental Sample	Number Students Withdrawn	Number Students Excluded	Number Students to be Assessed	Number Students Assessed Initial Sessions	Number Students Assessed Make-ups	Total Number Students Assessed
NATION	94	5,981	--	--	602	5,379	5,038	7	5,045
Northeast	95	1,055	--	--	104	951	903	0	903
Southeast	94	1,595	--	--	128	1,467	1,381	1	1,382
Central	95	1,281	--	--	71	1,210	1,137	6	1,143
West	93	2,050	--	--	299	1,751	1,617	0	1,617
STATES									
Alabama	96	2,885	58	106	153	2,684	2,567	4	2,571
Arizona[2]	95	3,095	146	216	218	2,807	2,659	18	2,677
Arkansas[2]	96	2,909	87	144	153	2,699	2,585	4	2,589
California	94	3,041	139	234	440	2,506	2,345	20	2,365
Colorado	95	3,275	129	160	204	3,040	2,882	15	2,897
Connecticut	95	2,914	52	106	205	2,655	2,506	8	2,514
Delaware	95	2,330	90	126	138	2,156	2,040	8	2,048
Dist. Columbia	94	3,033	76	177	284	2,648	2,472	24	2,496
Florida	95	3,258	187	224	296	2,925	2,751	16	2,767
Georgia	96	3,078	115	202	159	2,832	2,705	7	2,712
Hawaii	95	2,995	121	154	171	2,791	2,624	18	2,642
Idaho	96	2,934	88	121	112	2,789	2,671	3	2,674
Indiana	96	2,798	69	103	114	2,650	2,532	3	2,535
Iowa	96	3,006	49	80	115	2,860	2,747	9	2,756
Kentucky	96	3,007	111	143	112	2,863	2,728	24	2,752
Louisiana	96	3,159	98	145	135	2,977	2,834	14	2,848
Maine[1]	95	2,183	27	49	123	2,038	1,932	7	1,939
Maryland	95	3,193	123	199	199	2,918	2,782	4	2,786
Massachusetts	96	2,935	29	77	224	2,663	2,535	10	2,545
Michigan[2]	94	2,777	71	97	136	2,615	2,436	10	2,446
Minnesota[1]	96	2,895	35	72	117	2,741	2,607	13	2,620
Mississippi	97	2,981	99	177	150	2,753	2,649	8	2,657
Missouri	95	2,834	129	153	124	2,686	2,548	14	2,562
Nebraska	96	2,648	46	72	126	2,496	2,383	10	2,393
New Hampshire	96	2,554	53	75	115	2,417	2,314	8	2,322
New Jersey	96	2,510	62	91	139	2,342	2,221	18	2,239
New Mexico[1]	95	2,852	71	201	214	2,508	2,380	2	2,382
New York	95	2,594	49	76	149	2,418	2,278	7	2,285
North Carolina	96	3,128	129	130	136	2,991	2,871	12	2,883
North Dakota	97	2,275	34	39	48	2,222	2,158	0	2,158
Ohio	96	2,910	90	117	179	2,704	2,580	0	2,580
Oklahoma	85	2,936	115	153	240	2,658	2,251	0	2,251
Pennsylvania	95	3,071	69	77	122	2,941	2,791	14	2,805
Rhode Island	95	2,764	58	166	192	2,464	2,344	3	2,347
South Carolina	96	3,083	116	172	170	2,857	2,758	0	2,758
Tennessee	95	3,047	127	159	141	2,874	2,728	6	2,734
Texas	96	2,987	106	163	252	2,678	2,567	4	2,571
Utah	96	3,139	94	159	140	2,934	2,819	10	2,829
Virginia	96	3,128	117	132	199	2,914	2,782	4	2,786
West Virginia	96	3,009	80	89	152	2,848	2,722	11	2,733
Wisconsin[2]	96	3,049	49	72	199	2,827	2,712	0	2,712
Wyoming	96	3,046	124	152	124	2,894	2,775	0	2,775
TERRITORY									
Guam	94	2,268	134	94	154	2,154	2,025	4	2,029

See explanations of the notations and guidelines about sample representativeness and for the derivation of weighted participation. [1] One or more schools in the original sample initially declined and then decided to participate after their substitute(s) had also agreed to participate. Further, assessments were conducted in both the original and substitute schools. For these cases, the students in the substitute school(s) are included in the counts of students in the table. The state's estimates will be based on the student responses from the original school only. [2] In one or more schools an assessment was conducted but the wrong materials were sent to the school(s). The students in these school(s) are included in the counts of students in the tables. However, the state's estimates will not be based on these student responses. (--) Because student sampling for the national assessment was implemented within several days of the assessment within each school there was no supplemental sample and the number of students withdrawn was negligible.

SOURCE: National Assessment of Educational Progress (NAEP), 1992 Reading Assessment.

TABLE B.6 | **Summary of School and Student Participation, Grade 4, 1992 Reading Assessment**

PUBLIC SCHOOLS	Weighted Percentage School Participation Before Substitution	Weighted Percentage School Participation After Substitution	Notation Number 1	Weighted Percentage Student Participation After Make-ups	Notation Number 3	Weighted Overall Rate
NATION	86	87		94		82
Northeast	80	80		95		76
Southeast	92	93		94		87
Central	92	92		95		87
West	82	83		93		77
STATES						
Alabama	76	97		96		93
Arizona	99	99		95		95
Arkansas	87	96		96		93
California	92	97		94		92
Colorado	100	100		95		95
Connecticut	99	99		95		94
Delaware	92	92		95		88
Dist. Columbia	99	99		94		94
Florida	100	100		95		95
Georgia	100	100		96		96
Hawaii	100	100		95		95
Idaho	82	96		96		92
Indiana	77	92		96		88
Iowa	100	100		96		96
Kentucky	94	97		96		93
Louisiana	100	100		96		96
Maine	58	71	***	95		67
Maryland	99	99		95		95
Massachusetts	87	97		96		92
Michigan	83	90		94		84
Minnesota	81	94		96		90
Mississippi	98	100		97		97
Missouri	90	97		95		93
Nebraska	76	87	***	96		83
New Hampshire	68	81	***	96		77
New Jersey	76	82	***	96		79
New Mexico	76	91		95		86
New York	78	84	***	95		79
North Carolina	95	99		96		95
North Dakota	70	91		97		89
Ohio	78	91		96		87
Oklahoma	86	98		85		83
Pennsylvania	85	95		95		91
Rhode Island	83	96		95		92
South Carolina	98	99		96		96
Tennessee	93	94		95		89
Texas	92	97		96		93
Utah	99	99		96		95
Virginia	99	99		96		95
West Virginia	100	100		96		96
Wisconsin	99	99		96		95
Wyoming	97	97		96		93
TERRITORY						
Guam	100	100		94		94

See explanations of the notations and guidelines about sample representativeness and for the derivation of weighted participation. **Notation Number 1** = Both the state's weighted participation rate for the initial sample of schools was below 85% AND the weighted school participation rate after substitution was below 90%; **OR** the weighted school participation rate of the initial sample of schools was below 70% (regardless of the participation rate after substitution.) **Notation number 3** = The weighted student response rate within participating schools was below 85 percent.

SOURCE: National Assessment of Educational Progress (NAEP), 1992 Reading Assessment.

TABLE B.7 | Weighted Percentages of Students Excluded (IEP and LEP) from Original Sample, Grade 4, 1992 Reading Assessment

PUBLIC SCHOOLS	Total Percentage Students Identified IEP and LEP	Total Percentage Students Excluded	Percentage Students Identified IEP	Percentage Students Excluded IEP	Percentage Students Identified LEP	Percentage Students Excluded LEP
NATION	12	8	9	6	4	3
Northeast	12	8	9	5	3	3
Southeast	11	7	9	6	1	1
Central	7	5	6	4	1	1
West	18	12	10	6	9	7
STATES						
Alabama	10	6	10	5	0	0
Arizona	16	7	8	5	10	3
Arkansas	11	5	11	5	0	0
California	28	14	7	4	21	11
Colorado	11	6	9	5	2	2
Connecticut	15	7	12	4	4	3
Delaware	12	6	11	5	1	0
Dist. Columbia	12	10	9	7	4	3
Florida	17	9	14	7	4	2
Georgia	9	5	8	5	1	1
Hawaii	14	6	9	4	5	2
Idaho	9	4	8	3	2	1
Indiana	8	4	7	4	0	0
Iowa	10	4	9	4	1	0
Kentucky	8	4	7	4	0	0
Louisiana	8	4	7	4	1	0
Maine	12	5	12	5	0	0
Maryland	14	7	12	6	2	1
Massachusetts	17	7	14	5	4	2
Michigan	7	5	6	4	1	1
Minnesota	10	4	8	4	2	1
Mississippi	7	5	7	5	0	0
Missouri	11	5	11	4	0	0
Nebraska	13	4	13	4	1	1
New Hampshire	12	4	12	4	0	0
New Jersey	10	6	7	3	4	2
New Mexico	14	8	10	6	3	2
New York	13	6	8	4	5	2
North Carolina	12	4	11	4	1	1
North Dakota	10	2	10	2	0	0
Ohio	10	6	9	6	1	1
Oklahoma	13	8	12	8	2	1
Pennsylvania	9	4	8	3	2	1
Rhode Island	16	7	10	4	6	4
South Carolina	11	6	11	6	0	0
Tennessee	12	5	11	5	0	0
Texas	17	8	9	5	9	3
Utah	10	4	9	4	1	1
Virginia	12	6	11	6	1	1
West Virginia	8	5	8	5	0	0
Wisconsin	11	7	9	6	2	1
Wyoming	11	4	10	4	1	0
TERRITORY						
Guam	12	7	6	4	6	3

IEP = Individual Education Plan and LEP = Limited English Proficiency. To be excluded, a student was supposed to be IEP or LEP and judged incapable of participating in the assessment. A student reported as both IEP and LEP is counted once in the overall rate (first column), once in the overall excluded rate (second column), and separately in the remaining columns. Note: Weighted percentages for the nation and region are based on students sampled for all subject areas assessed in 1992 (mathematics, reading, and writing). However, based on the national sampling design, the rates shown also are the best estimates for the reading assessment.

SOURCE: National Assessment of Educational Progress (NAEP), 1992 Reading Assessment.

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TABLE B.8 | Weighted Percentages of Absent, IEP, and LEP Students Based on Those Invited to Participate in the Assessment, Grade 4, 1992 Reading Assessment

PUBLIC SCHOOLS	**Weighted Percentage Student Participation After Make-up**	**Weighted Percentage Absent**	**Weighted Percentage Assessed IEP**	**Weighted Percentage Absent IEP**	**Weighted Percentage Assessed LEP**	**Weighted Percentage Absent LEP**
NATION	94	6	89	11	93	7
Northeast	94	6	93	7	81	19
Southeast	93	7	83	17	68	32
Central	94	6	92	8	96	4
West	93	7	90	10	94	6
STATES						
Alabama	96	4	92	8	68	32
Arizona	95	5	93	7	95	5
Arkansas	96	4	94	6	100	0
California	94	6	95	5	94	6
Colorado	95	5	89	11	90	10
Connecticut	95	5	91	9	94	6
Delaware	95	5	95	5	100	0
Dist. Columbia	94	6	92	8	93	7
Florida	95	5	90	10	96	4
Georgia	96	4	89	11	100	0
Hawaii	95	5	89	11	98	2
Idaho	96	4	91	9	95	5
Indiana	96	4	93	7	100	0
Iowa	96	4	95	5	100	0
Kentucky	96	4	95	5	100	0
Louisiana	96	4	92	8	100	0
Maine	95	5	93	7	80	20
Maryland	95	5	94	6	94	6
Massachusetts	96	4	93	7	97	3
Michigan	94	6	80	20	92	8
Minnesota	96	4	93	7	100	0
Mississippi	97	3	93	7	100	0
Missouri	95	5	94	6	100	0
Nebraska	96	4	95	5	88	12
New Hampshire	96	4	92	8	78	22
New Jersey	96	4	97	3	97	3
New Mexico	95	5	84	16	93	7
New York	95	6	96	4	98	2
North Carolina	96	4	94	6	89	11
North Dakota	97	3	97	3	100	0
Ohio	96	4	91	9	100	0
Oklahoma	85	15	73	27	88	12
Pennsylvania	95	4	93	7	94	6
Rhode Island	95	5	97	3	97	3
South Carolina	96	4	93	7	0	0
Tennessee	95	5	93	7	69	31
Texas	96	4	95	5	97	3
Utah	96	4	98	2	86	14
Virginia	96	4	94	6	95	5
West Virginia	96	4	97	3	100	0
Wisconsin	96	4	95	5	100	0
Wyoming	96	4	94	6	100	0
TERRITORY						
Guam	94	6	84	16	98	2

IEP = Individual Education Plan and LEP = Limited English Proficiency. Note: Weighted percentages for the nation and region are based on students sampled for all subject areas assessed in 1992 (mathematics, reading, and writing). However, based on the national sampling design, the rates shown also are the best estimates for the reading assessment.

SOURCE: National Assessment of Educational Progress (NAEP), 1992 Reading Assessment.

TABLE B.9 | Questionnaire Response Rates, Grade 4, 1992 Reading Assessment

PUBLIC SCHOOLS	Weighted Percentage of Students Matched to Reading Teacher Questionnaires	Percentage of Reading Teacher Questionnaires Returned	Weighted Percentage of Students Matched to School Characteristics / Policies Questionnaire	Percentage of School Characteristics / Policies Questionnaires Returned	Percentage of Excluded Student Questionnaires Returned
NATION	72.3	97.7	98.9	98.4	91.0
Northeast	75.6	95.8	100.0	100.0	94.6
Southeast	80.4	99.0	95.6	95.5	94.4
Central	74.9	97.6	99.7	98.3	93.3
West	60.4	97.2	100.0	100.0	87.1
STATES					
Alabama	90.4	100.0	100.0	100.0	100.0
Arizona	90.1	99.6	99.0	99.1	97.7
Arkansas	93.2	100.0	99.3	99.1	98.7
California	88.9	99.3	98.7	99.1	90.7
Colorado	82.2	99.3	100.0	100.0	97.1
Connecticut	87.5	99.8	98.5	98.1	83.9
Delaware	95.5	100.0	100.0	100.0	99.3
Dist. Columbia	73.8	99.0	93.7	94.7	90.8
Florida	88.4	98.9	99.3	99.1	97.3
Georgia	86.9	99.3	100.0	100.0	96.9
Hawaii	92.2	98.8	98.8	99.1	97.1
Idaho	93.3	99.7	100.0	100.0	100.0
Indiana	89.2	100.0	100.0	100.0	99.1
Iowa	89.8	99.5	100.0	100.0	98.3
Kentucky	90.0	99.5	99.4	99.1	100.0
Louisiana	87.5	99.6	98.2	98.2	98.5
Maine	85.8	99.1	97.7	97.8	92.4
Maryland	90.0	99.5	100.0	100.0	95.5
Massachusetts	88.1	100.0	100.0	100.0	92.9
Michigan	87.2	100.0	100.0	100.0	97.8
Minnesota	74.7	97.6	95.7	96.1	88.9
Mississippi	86.7	99.8	100.0	100.0	99.3
Missouri	89.7	99.7	100.0	100.0	94.4
Nebraska	82.1	100.0	99.0	99.2	98.4
New Hampshire	93.7	99.7	97.7	99.0	99.1
New Jersey	92.1	100.0	100.0	100.0	95.7
New Mexico	81.1	99.0	100.0	100.0	93.9
New York	88.8	99.0	99.5	98.9	97.3
North Carolina	89.5	100.0	99.2	99.1	98.5
North Dakota	90.4	100.0	100.0	100.0	100.0
Ohio	86.9	99.5	99.7	99.1	97.2
Oklahoma	91.5	99.1	98.0	98.4	94.2
Pennsylvania	90.7	100.0	100.0	100.0	99.2
Rhode Island	88.2	99.4	99.0	98.9	95.3
South Carolina	94.2	99.6	100.0	100.0	98.8
Tennessee	91.2	100.0	98.7	98.2	95.7
Texas	85.3	99.9	99.4	99.0	99.2
Utah	91.6	99.5	100.0	100.0	100.0
Virginia	91.1	99.6	97.8	97.3	95.5
West Virginia	87.1	100.0	100.0	100.0	97.4
Wisconsin	89.5	99.7	99.5	99.2	98.5
Wyoming	85.4	100.0	100.0	100.0	99.2
TERRITORY					
Guam	92.5	98.3	93.7	95.2	99.4

The Mathematics Teacher Questionnaire requested background information about the teacher (Part I) and information about instruction in particular classes (Part II). The percentage of students matched to questionnaires is provided for Part II. If they differed, the match rates for Part I were higher. Note: For the nation and regions, the percentage of excluded student questionnaires returned is based on students sampled for all subjects assessed in 1992 (mathematics, reading, and writing). However, based on the sampling design, these rates also are the best estimates of the comparable rates for the reading assessment.

SOURCE: National Assessment of Educational Progress (NAEP), 1992 Reading Assessment.

LEP and IEP Students

It is NAEP's intent to assess all selected students. Therefore, all selected students who are capable of participating in the assessment should be assessed. However, some students sampled for participation in NAEP can be excused from the sample according to carefully defined criteria. Specifically, some of the students identified as having Limited English Proficiency (LEP) or having an Individualized Education Plan (IEP) may be incapable of participating meaningfully in the assessment. These students are identified as follows:

LEP students may be excluded if:

- The student is a native speaker of a language other than English; AND
- He or she has been enrolled in an English-speaking school for less than two years; AND
- The student is judged to be incapable of taking part in the assessment.

IEP students may be excluded if:

- The student is mainstreamed less than 50 percent of the time in academic subjects and is judged to be incapable of taking part in the assessment, OR
- The IEP team has determined that the student is incapable of taking part meaningfully in the assessment.

When there is doubt, the student is included in the assessment.

For each student excused from the assessment, including those in the 1992 Trial State Assessment Programs, school personnel complete a questionnaire about the characteristics of that student and the reason for exclusion. Approximately 7 to 8 percent of the students nationally were excluded from the assessment. Across the participating states and territories, the percentages ranged from 2 to 12 percent at grade 4.

Data Collection

As with all NAEP assessments, data collection for the 1992 assessment was conducted by a trained field staff. For the national assessment, this was accomplished by Westat staff. However, in keeping with the legislative requirements of the Trial State Assessment Program, the state reading assessments involving approximately 110,000 fourth graders in about 4,300 schools were conducted by personnel from each of the participating states. NAEP's responsibilities included selecting the sample of schools and students for each participating state, developing the administration procedures and manuals, training the personnel who would conduct the assessments, and conducting an extensive quality assurance program.

Each participating state and territory was asked to appoint a State Coordinator to be the liaison between NAEP and participating schools. The State Coordinator was asked to gain cooperation of the selected schools, assist in scheduling, provide information necessary for sampling, and notify personnel about training. At the local school level, the administrators, usually school or district staff, were responsible for attending training, identifying excluded students, distributing school and teacher questionnaires, notifying sampled students and their teachers, administering the assessment session, completing the necessary paperwork, and preparing the materials for shipment.

Westat staff trained assessment administrators within the states in three and one-half hour sessions that included a videotape and practice exercises to provide uniformity in procedures. For the 1992 Trial State Assessment Program, which also included mathematics at grades 4 and 8, nearly 10,000 persons were trained in NAEP data collection procedures in about 500 training sessions around the nation.

To provide quality control across states, a randomly selected 50 percent of the state assessment sessions were monitored by approximately 400 quality control monitors, who were also trained Westat staff. The identity of the schools to be monitored was not revealed to state, district, or school personnel until shortly before the assessment was to commence. The analysis of the results for the unmonitored schools as compared to the monitored schools yielded no systematic differences that would suggest different procedures were used. See the *Technical Report of the 1992 Trial State Assessment in Reading* for details and results of this analysis.

Scoring

Materials from the 1992 assessment, including the Trial State Assessment Program, were shipped to National Computer Systems in Iowa City for processing. Receipt and quality control were managed through a sophisticated bar-coding and tracking system. After all appropriate materials were received from a school, they were forwarded to the professional scoring area, where the responses to the open-ended items were evaluated by trained staff using guidelines prepared by NAEP. Each open-ended question had a unique scoring guide that defined the criteria to be used in evaluating students' responses. The extended constructed-response questions were evaluated on a scale of 1 to 4, permitting degrees of partial credit to be given.

For the national reading assessment and the Trial State Assessment Program approximately 2 million student responses were scored, including a 25 percent reliability sample. The overall percentage of agreement between readers for the national reliability samples at each of the three grades assessed was 89 percent at grade 4, 86 percent at grade 8, and 88 percent at grade 12. For the Trial State Assessment Program at grade 4, the percentage of agreement across questions and states averaged 91 percent. In general, scoring reliabilities for the questions rarely dropped below 85 percent and often exceeded 90 percent exact agreement. TABLE B.10 contains the reliability results for the extended-responses, eight of which were administered at two different grades.

TABLE B.10 Percentages of Exact Agreement for Scoring Reliability Samples for Extended-Response Tasks

	National	States	Overall
Grade 4 - Extended Tasks			
Watch Out for Wombats	94	91	92
Blue Crabs	91	89	89
Spider and Turtle	90	88	88
Box in Barn	95	93	93
Sybil Sounds the Alarm	94	90	90
Amanda Clements	88	85	86
Money Makes Cares	93	93	93
Ellis Island	96	94	94
Grade 8 - Extended Tasks			
Money Makes Cares	90		
Ellis Island	90		
Dorothea Dix	87		
Oregon Trail-1	87		
Oregon Trail-2	92		
Cady's Life	91		
Time Capsule	88		
Gift of Phan-1	86		
Gift of Phan-2	94		
Flying Machine	89		
Write Your Senator-1	96		
Write Your Senator-2	88		
Bus Schedule	92		
Grade 12 - Extended Tasks			
On A Mountain Trail	97		
Garbage Glut	91		
Hired Man	96		
Battle of Lexington	91		
Battle of Shiloh-1	90		
Battle of Shiloh-2	90		
Battle of Shiloh-3	85		
Call me Gentle-1	88		
Call me Gentle-2	93		
Gift of Phan-1	85		
Gift of Phan-2	92		
Flying Machine	85		
Write Your Senator-1	94		
Write Your Senator-2	87		
Bus Schedule	91		
Tax Form	87		

*Scoring extended-response tasks was based on five categories: Extended, Essential, Partial, Unsatisfactory, and Not Rateable. At grades 8 and 12, the reading assessment was conducted only for the nation.

Subsequent to the professional scoring, the booklets were scanned, and all information was transcribed to the NAEP database at ETS. Each processing activity was conducted with rigorous quality control.

Data Analysis and IRT Scaling

After the assessment information had been compiled in the database, the data were weighted according to the population structure. The weighting for the national and state samples reflected the probability of selection for each student as a result of the sampling design, adjusted for nonresponse. Through poststratification, the weighting assured that the representation of certain subpopulations corresponded to figures from the U.S. Census and the Current Population Survey.[62]

Analyses were then conducted to determine the percentages of students who gave various responses to each cognitive and background question. In determining the percentages of students who gave the various responses to the NAEP cognitive items, a distinction was made between missing responses at the end of each block (i.e., missing responses subsequent to the last item the student answered) and missing responses prior to the last observed response. Missing responses before the last observed response were considered intentional omissions. Missing responses at the end of the block were considered "not reached," and treated as if they had not been presented to the student. In calculating percentages for each item, only students classified as having been presented the item were included in the denominator of the statistic.

It is standard practice at ETS to treat all nonrespondents to the last item as if they had not reached the item. For multiple-choice and standard constructed-response items, the use of such a convention most often produces a reasonable pattern of results in that the proportion reaching the last item is not dramatically smaller than the proportion reaching the next-to-last item. However, for the blocks that ended with extended-response tasks, use of the standard ETS convention resulted in an extremely large drop in the proportion of students attempting the final item. A drop of such magnitude seemed somewhat implausible. Therefore, for blocks ending with an extended-response task, students who answered the next-to-last item but did not respond to the extended-response task were classified as having intentionally omitted the last item.

Item response theory (IRT) was used to estimate average scale-score proficiency for the nation, various subgroups of interest within the nation, and for the states and territories. IRT models the probability of answering an item in a certain way as a mathematical function of proficiency or skill. The main purpose of IRT analysis is to provide a common scale on which performance can be compared across groups, such as those defined by grades, and subgroups, such as those defined by race/ethnicity or gender. Because of the BIB-spiraling design used by NAEP, students do not receive enough questions about a specific topic to provide reliable information about individual performance. Traditional test scores for individual students, even those based on IRT, would lead to misleading estimates of population characteristics, such as subgroup means and percentages of students at or above a certain proficiency level. Instead, NAEP constructs sets of plausible values designed to represent the distribution of proficiency in the population. A plausible value for an individual is not a scale score for that individual but may be regarded as a representative value from the distribution of potential scale scores for all students in the population with similar characteristics and identical patterns of item response. Statistics describing performance on the NAEP proficiency scale are based on these plausible values. They estimate values that would have been obtained had individual proficiencies been observed -- that is, had each student responded to a sufficient number of cognitive items so that proficiency could be precisely estimated.[63]

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[62] For additional information about the use of weighting procedures in NAEP, see Eugene G. Johnson, "Considerations and Techniques for the Analysis of NAEP Data" in *Journal of Educational Statistics* (December 1989).

For the 1992 assessment, a scale ranging from 0 to 500 was created to report performance for each reading purpose -- Literary and Informational at grade 4 and Literary, Informational, and to Perform a Task at grades 8 and 12. The scales summarize examinee performance across all three question types used in the assessment (multiple-choice, regular constructed-response, and extended-response). In producing the scales, three distinct IRT models were used. Multiple-choice items were scaled using the three-parameter logistic (3PL) model; regular constructed-response questions were scaled using the two-parameter logistic (2PL) model; and the extended-response tasks were scaled using a generalized partial-credit (GPC) model.[64] Recently developed by ETS and first used in 1992, the generalized partial-credit model permits the scaling of questions scored according to multi-point rating schemes. The model takes full advantage of the information available from each of the student response categories used for these more complex performance tasks.

Each scale was based on the distribution of student performance across all three grades assessed in the national assessment (grades 4, 8, and 12) and had a mean of 250 and a standard deviation of 50. A composite scale was created as an overall measure of students' reading proficiency. The composite scale was a weighted average of the separate scales for the reading purposes, where the weight for each reading purpose was proportional to the relative importance assigned to the reading purpose the specifications developed through the consensus planning process as shown previously in TABLE B.1.

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[63] For theoretical justification of the procedures employed, see Robert J. Mislevy, "Randomization-Based Inferences About Latent Variables from Complex Samples," *Psychometrika*, 56(2), 177-196, 1988.

For computational details, see *Focusing the New Design: NAEP 1988 Technical Report* (Princeton, NJ: Educational Testing Service, National Assessment of Education Progress, 1990) and the *1990 NAEP Technical Report*.

[64] Muraki, E., "A Generalized Partial Credit Model: Application of an EM algorithm", *Applied Psychological Measurement*, 16(2), 159-176, 1992.

As described earlier, the NAEP proficiency scales make it possible to examine relationships between students' performance and a variety of background factors measured by NAEP. The fact that a relationship exists between achievement and another variable, however, does not reveal the underlying cause of the relationship, which may be influenced by a number of other variables. Similarly, the assessments do not capture the influence of unmeasured variables. The results are most useful when they are considered in combination with other knowledge about the student population and the educational system, such as trends in instruction, changes in the school-age population, and societal demands and expectations.

Linking the Trial State Results to the National Results

Although the assessment booklets used in the Trial State Assessment Program were identical to those used in the national assessment, the various differences between the national and trial state assessments, including those in administration procedures, required that careful and complex equating procedures based on a special design be used to create an appropriate basis for comparison between the national and state results.

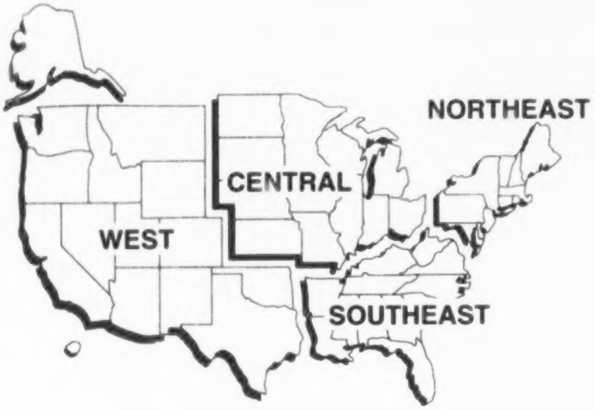
Two separate sets of IRT-based scales (one set based on data from the trial state assessment and one set based on national assessment data) were established for the 1992 assessment. The scales from the trial state assessment were linked to those from the national assessment through a linking function determined by comparing the results for the aggregate of students assessed in the trial state assessment (except those in Guam and the Virgin Islands) with the results for students in the State Aggregate Comparison subsample of the national assessment. This subsample is representative of the population of all grade-eligible public-school students within the aggregate of the 41 participating states and the District of Columbia who were assessed as part of the national assessment.

The linking was accomplished for each subscale by matching the mean and standard deviation of the subscale proficiencies across all students in the Trial State Assessment (excluding Guam and the Virgin Islands) to the corresponding subscale mean and standard deviation across all students in the State Aggregate Comparison subsample.

NAEP Reporting Groups

This report contains results for the nation, participating states, and groups of students within the nation and the states defined by shared characteristics. The definitions for subgroups as defined by region, race/ethnicity, gender, size and type of community, and type of school follow.

Region. The United States has been divided into four regions: Northeast, Southeast, Central, and West. States in each region are shown on the following map.



Race/Ethnicity. Results are presented for students of different racial/ethnic groups based on the students' self-identification of race/ethnicity according to the following mutually exclusive categories: White, Black, Hispanic, Asian/Pacific Islander, and American Indian (including Alaskan Native). Based on statistically determined criteria, at least 62 students in a particular subpopulation must participate in order for the results for that subpopulation to be considered reliable. However, the data for all students, regardless of whether their racial/ethnic group was reported separately, were included in computing the overall national or state level results.

Gender. Results are reported separately for males and females. Gender was reported by the student.

Type of Community. Results are provided for four mutually exclusive community types -- advantaged urban, disadvantaged urban, extreme rural, and other -- as described below. According to information about parents' occupation obtained from the Principal's Questionnaire completed by each sampled school, indices are developed such that for each assessment approximately the 10 percent of the most extreme advantaged urban, disadvantaged urban, and rural schools are classified into the first three categories. The remaining approximately 70 percent of the schools are classified into the "other" category.

Advantaged Urban: Students in this group reside in metropolitan statistical areas and attend schools where a high proportion of the students' parents are in professional or managerial positions.

Disadvantaged Urban: Students in this group reside in metropolitan statistical areas and attend schools where a high proportion of the students' parents are on welfare or are not regularly employed.

Extreme Rural: Students in this group do not reside in metropolitan statistical areas. They attend schools in areas with a population below 10,000 where many of the students' parents are farmers or farm workers.

Other: Students in the "Other" category attend schools in areas other than those defined as advantaged urban, disadvantaged urban, or extreme rural.

Type of School. For the nation, results are presented separately for public-school students and for private-school students, both those attending Catholic schools and other types of private schools.

Minimum Subgroup Sampling Size

As described earlier, results for reading proficiency and background variables were tabulated and reported for groups defined by race/ethnicity and type of community, as well as by gender and parents' education level. However, in many states or territories and for some regions of the country, the number of students in some these population subgroups was not sufficiently high to permit accurate estimation of proficiency and/or background variable results. As a result, data are not provided for the subgroups with very small sample sizes. For results to be reported for any subgroup, a minimum sample size of 62 students was required. This number was determined by computing the sample size required to detect an effect size of .2 at the 5 percent significance level, with a probability of .8 or greater.

Estimating Variability

Because the statistics presented in this report are estimates of group and subgroup performance based on samples of students, rather than the values that could be calculated if every student in the nation answered every question, it is important to have measures of the degree of uncertainty of the estimates. Two components of uncertainty are accounted for in the variability of statistics based on proficiency: the uncertainty due to sampling only a relatively small number of students and the uncertainty due to sampling only a relatively small number of reading questions. The variability of estimates of percentages of students having certain background characteristics or answering a certain cognitive question correctly is accounted for by the first component alone.

In addition to providing estimates of percentages of students and their average proficiency, this report also provides information about the uncertainty of each statistic. Because NAEP uses complex sampling procedures, conventional formulas for estimating sampling variability that assume simple random sampling are inappropriate and NAEP uses a jackknife replication procedure to estimate standard errors. The jackknife standard error provides a reasonable measure of uncertainty for any information about students that can be observed without error, but each student typically responds to so few items within any content area that the proficiency measurement for any single student would be imprecise. In this case, using plausible values technology makes it possible to describe the performance of groups and subgroups of students, but the underlying imprecision that makes this step necessary adds an additional component of variability to statistics based on NAEP proficiencies.[65]

The reader is reminded that, like those from all surveys, NAEP results are also subject to other kinds of errors including the effects of necessarily imperfect adjustment for student and school nonresponse and other largely unknowable effects associated with the particular instrumentation and data collection methods used. Nonsampling errors can be attributed to a number of sources: inability to obtain complete information about all selected students in all selected schools in the sample (some students or schools refused to participate, or students participated but answered only certain items); ambiguous definitions; differences in interpreting questions; inability or unwillingness to give correct information; mistakes in recording, coding, or scoring data; and other errors of collecting, processing, sampling, and estimating missing data. The extent of nonsampling errors is difficult to estimate. By their nature, the impacts of such error cannot be reflected in the data-based estimates of uncertainty provided in NAEP reports.

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[65] For further details, see Eugene G. Johnson, "Considerations and Techniques for the Analysis of NAEP Data" in *Journal of Educational Statistics* (December 1989).

Setting the Achievement Levels

Setting achievement levels is a method for setting standards on the NAEP assessment that identifies what students should know and be able to do at various points along the proficiency scale. The method depends on securing and summarizing a set of judgmental ratings of expectations for student educational performance on specific items. The NAEP proficiency scale is a numerical index of students' performance in reading ranging from 0 to 500, and has three achievement levels -- Basic, Proficient, and Advanced -- mapped onto it for each grade level assessed.

In developing the threshold values for the levels, a broadly constituted panel of judges -- including teachers (50 percent), non-teacher educators (20 percent), and non-educators (30 percent)[66] -- rated a grade-specific item pool using the Board's policy definitions for Basic, Proficient, and Advanced. The policy definitions were operationalized by the judges in terms of specific reading skills, knowledge, and behaviors that were judged to be appropriate expectations for students in each grade, and were in accordance with the current reading assessment framework. The policy definitions are as follows:

• BASIC	This level, below proficient, denotes partial mastery of the knowledge and skills that are fundamental for proficient work at each grade -- 4, 8, and 12.
• PROFICIENT	This central level represents solid academic performance for each grade assessed -- 4, 8, and 12. Students reaching this level have demonstrated competency over challenging subject matter and are well prepared for the next level of schooling.
• ADVANCED	This higher level signifies superior performance beyond proficient grade-level mastery at grades 4, 8, and 12.

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[66] Non-educators represented business, labor, government service, parents, and the general public.

The judges' operationalized definitions were incorporated into lists of descriptors that represented what borderline students should be able to do at each of the policy levels. The purpose of having panelists develop their own operational definitions of the achievement levels was to ensure that all panelists would have a common understanding of borderline performances and a common set of content-based referents to use during the item-rating process.

For the multiple-choice and regular constructed-response items that were scored correct/incorrect, the judges (22 at grade 4) each rated half of the items in the NAEP pool in terms of the expected probability that a student at a borderline achievement level would answer the item correctly, based on the judges' operationalization of the policy definitions and the factors that influence item difficulty. To assist the judges in generating consistently-scaled ratings, the rating process was repeated twice, with feedback. Information on consistency among different judges and on the difficulty of each item[67] was fed back into the first repetition (round 2), while information on consistency within each judge's set of ratings was fed back into the second repetition (round 3). The third round of ratings permitted the judges to discuss their ratings among themselves to resolve problematic ratings. The mean final rating of the judges aggregated across multiple-choice and regular constructed-response items yielded the threshold values in the percent correct metric. These cut scores were then mapped onto the NAEP scale (which is defined and scored using item response theory, rather than percent correct). For extended constructed-response (ECR) items, judges were asked to select student papers which exemplified performance at the cutpoint of each achievement level. Then for each achievement level, the mean of the scores assigned to the selected papers was mapped onto the NAEP scale in a manner similar to that used for the items scored correct/incorrect. The final cut score for each achievement level was a weighted average of the cut score for the multiple-choice and regular constructed-response items and the cut score for extended constructed-response items, with the weights being proportional to the information supplied by the two classes of items. The judges' ratings, in both metrics, and their associated errors of measurement are shown below.

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[67] Item difficulty estimates were based on a preliminary, partial set of responses to the national assessment.

TABLE B.11 Cutpoints for Achievement Levels at Grade 4

Level	Mean Percent Correct (Round 3)	Mean Paper Rating -- ECR (Round 3)	Scale Score*	Standard Error of Scale Score**
Basic	38	2.72	212	2.5
Proficient	62	3.14	243	2.1
Advanced	80	3.48	275	8.2

* Scale Score is derived from a weighted average of the mean percent correct (for multiple-choice and short constructed-response items) and the mean paper rating for the extended constructed-response items after both were mapped onto the NAEP scale. ** The standard error of the scale is estimated from the difference in mean scale scores for the two equivalent subgroups of judges.

For each achievement level, exemplar items were selected that reflected the kinds of tasks that examinees at or above the level were likely to be able to perform successfully. Panelists who had rated specific blocks of released items were asked to review those same items again to select particular ones as exemplary of each achievement level. The items were pre-assigned to each achievement level based on the final round of the judges' rating data, and using the following statistical criteria. For any given level, Basic, Proficient, or Advanced,

- items having an expected p-value[68] ≥ .501 and ≤ .750, *at that level,* were assigned to that level;
- items meeting the criteria at *more than one level* were assigned to *one* level taking both the expected p-value and the appropriateness of the item for one of the levels into account; and
- items with expected p-values ≤ .501 were assigned to levels where a specific passage had few or no items at that level.

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[68] Expected p-values were based on the average predicted performance at the cutpoint for each achievement level.

During the validation process, items were again reviewed. Those that had been selected by the original standard-setting panel were grouped into sets of *pre-selected* items. All remaining items in the released blocks that met the statistical criteria, *but were not recommended by the original panel were grouped into a set identified as additional items for review.* Exercises that had been recommended for reclassification into another achievement level category were presented in their original classification for purposes of this review.

Panelists worked in grade-level groups to review the possible exemplar items. The task was to select a set of items, for each achievement level for their grade, that would best communicate to the public the levels of reading ability and the types of skills needed to perform in reading at that level.

After selecting sets of items for their grades, the three grade-level groups met as a whole group to review item selection. During this process, cross-grade items that had been selected as exemplars by two grades (two such items were selected by grades 8 and 12) were assigned to one grade by whole group consensus. In addition, items were evaluated by the whole group for overall quality. This process yielded 13 items as recommended exemplars for Grade 4, 13 items as recommended exemplars for Grade 8, and 21 items as recommended exemplars for Grade 12.

In Chapter 1, Figures 1.1 - 1.3 provide the final descriptions of the three achievement levels for grades 4, 8, and 12. Exemplar items, illustrating what students at each level should be able to perform, also are included in Chapter 1. In principle, the descriptions of the levels, though based on the 1992 item pool, apply to the current reading assessment framework and will not change from year to year (that is, until the framework changes). However, the sample items reflective of the levels will need to be updated each time the assessment is administered. TABLE 2.1 in Chapter 2 provides the percentage of students at or above each of the three levels and the percentage of students below the Basic level.

Drawing Inferences from the Results

The use of *confidence intervals*, based on the standard errors, provides a way to make inferences about the population means and proportions in a manner that reflects the uncertainty associated with the sample estimates. An estimated sample mean proficiency ± 2 standard errors represents a 95 percent confidence interval for the corresponding population quantity. This means that with approximately 95 percent certainty, the average performance of the entire population of interest is within ± 2 standard errors of the sample mean.

As an example, suppose that the average reading proficiency of students in a particular group was 256, with a standard error of 1.2. A 95 percent confidence interval for the population quantity would be as follows:

Mean ± 2 standard errors = 256 ± 2 • (1.2) = 256 ± 2.4 =

256 - 2.4 and 256 + 2.4 = 253.6, 258.4

Thus, one can conclude with 95 percent certainty that the average proficiency for the entire population of students in that group is between 253.6 and 258.4.

Similar confidence intervals can be constructed for percentages, provided that the percentages are not extremely large (greater than 90) or extremely small (less than 10). For extreme percentages, confidence intervals constructed in the above manner may not be appropriate. However, procedures for obtaining accurate confidence intervals are quite complicated. Thus, comparisons involving extreme percentages should be interpreted with this in mind.

To determine whether there is a real difference between the mean proficiency (or proportion of a certain attribute) for two groups in the population, one needs to obtain an estimate of the degree of uncertainty associated with the difference between the proficiency means or proportions of these groups for the sample. This estimate of the degree of uncertainty -- called the standard error of the difference between the groups -- is obtained by taking the square of each group's standard error, summing these squared standard errors, and then taking the square root of this sum.

Similar to the manner in which the standard error for an individual group mean or proportion is used, the standard error of the difference can be used to help determine whether differences between groups in the population are real. The difference between the mean proficiency or proportion of the two groups ± 2 standard errors of the difference represents an approximate 95 percent confidence interval. If the resulting interval includes zero, there is insufficient evidence to claim a real difference between groups in the population. If the interval does not contain zero, the difference between groups is statistically significant (different) at the .05 level.

The procedures described in this section, and the certainty ascribed to intervals (e.g., a 95 percent confidence interval) are based on statistical theory that assumes that only one confidence interval or test of statistical significance is being performed. When one considers sets of confidence intervals, like those for the average proficiency of all participating states and territories, statistical theory indicates that the certainty associated with the entire set of intervals is less than that attributable to each individual comparison from the set. If one wants to hold the certainty level for a specific set of comparisons at a particular level (e.g., .95), adjustments (called multiple-comparisons procedures) need to be made.

The standard errors for means and proportions reported by NAEP are statistics and subject to a certain degree of uncertainty. In certain cases, typically when the standard error is based on a small number of students or when the group of students is enrolled in a small number of schools, the amount of uncertainty associated with the standard errors may be quite large. Throughout this report, estimates of standard errors subject to a large degree of uncertainty are designated by the symbol "!". In such cases, the standard errors -- and any confidence intervals or significance tests involving these standard errors -- should be interpreted cautiously.

APPENDIX C

State Contextual Background Factors: Summary of Students' Characteristics by Race/Ethnicity and Type of Community and Co-Statistics From Sources External to NAEP

Introduction

Appendix C presents a summary of student characteristics by race/ethnicity and type of community on a state-by-state level. To supplement the NAEP data, co-statistics have been compiled from sources external to NAEP. The statistics provide a comprehensive overview of demographic characteristics for each state, with an emphasis on the school systems. With data ranging from pupil-teacher ratios to the percentage of schools offering free lunches, Appendix C examines many of the external factors which may affect student performance.

TABLE C.1 | Characteristics of NAEP Students by Race/Ethnicity and by Type of Community, Grade 4, 1992 Reading Assessment

PUBLIC SCHOOLS	Percentage of Students by Race/Ethnicity					Percentage of Students by Type of Community			
	White	Black	Hispanic	Asian/Pacific Islander	American Indian	Advantaged Urban	Disadvantaged Urban	Extreme Rural	Other
NATION	69 (0.5)	17 (0.4)	10 (0.3)	2 (0.3)	2 (0.3)	7 (2.1)	10 (1.3)	13 (2.4)	70 (3.2)
Northeast	68 (3.4)	20 (3.2)	9 (1.3)	2 (0.5)	1 (0.4)	14 (7.2)	14 (4.1)	2 (2.5)	69 (8.1)
Southeast	63 (2.7)	29 (2.6)	5 (1.1)	1 (0.3)	1 (0.4)	5 (3.3)	14 (3.4)	19 (6.9)	62 (7.5)
Central	79 (1.5)	11 (1.3)	7 (1.0)	1 (0.2)	2 (0.4)	3 (2.3)	9 (2.2)	15 (3.4)	73 (4.8)
West	65 (2.1)	11 (1.6)	16 (1.9)	5 (1.4)	2 (0.6)	7 (3.7)	5 (1.4)	14 (4.5)	74 (5.4)
STATES									
Alabama	61 (2.4)	31 (2.2)	5 (0.7)	1 (0.2)	2 (0.7)	11 (3.1)	13 (3.2)	16 (4.1)	61 (5.7)
Arizona	56 (1.9)	4 (0.6)	29 (1.6)	1 (0.3)	10 (1.8)	12 (3.7)	11 (3.2)	8 (3.1)	70 (5.2)
Arkansas	70 (1.8)	21 (1.5)	7 (0.7)	1 (0.2)	2 (0.3)	1 (1.2)	6 (1.5)	25 (4.0)	68 (4.2)
California	46 (1.9)	7 (0.8)	35 (1.6)	11 (1.1)	2 (0.3)	13 (2.8)	22 (3.7)	0 (0.1)	65 (4.7)
Colorado	70 (1.3)	4 (0.9)	21 (0.9)	2 (0.3)	2 (0.3)	18 (3.2)	13 (2.7)	12 (2.7)	57 (5.0)
Connecticut	73 (1.7)	11 (1.3)	13 (1.1)	2 (0.3)	1 (0.3)	19 (4.4)	16 (3.1)	0 (0.0)	65 (5.1)
Delaware*	64 (1.1)	25 (1.0)	8 (0.5)	2 (0.3)	2 (0.4)	10 (0.1)	8 (0.2)	23 (0.2)	58 (0.2)
Dist. Columbia	5 (0.3)	83 (0.6)	9 (0.5)	1 (0.2)	2 (0.3)	20 (0.2)	60 (0.2)	0 (0.0)	19 (0.2)
Florida	57 (1.9)	21 (2.0)	18 (1.4)	2 (0.4)	2 (0.3)	16 (3.1)	21 (3.6)	4 (1.6)	59 (4.5)
Georgia	57 (1.9)	34 (1.8)	5 (0.5)	2 (0.3)	1 (0.2)	11 (3.5)	12 (3.5)	12 (3.8)	65 (6.0)
Hawaii	20 (1.5)	5 (0.6)	11 (0.9)	61 (2.3)	2 (0.3)	12 (3.6)	9 (1.8)	5 (2.1)	74 (4.4)
Idaho	84 (0.9)	1 (0.1)	11 (0.8)	1 (0.2)	3 (0.4)	10 (2.7)	1 (0.9)	33 (4.9)	56 (5.4)
Indiana	82 (1.4)	11 (1.4)	5 (0.6)	1 (0.1)	1 (0.3)	8 (2.7)	10 (2.9)	15 (3.3)	67 (5.0)
Iowa	88 (0.9)	3 (0.6)	6 (0.5)	2 (0.2)	1 (0.3)	7 (3.0)	6 (2.6)	39 (3.5)	48 (4.6)
Kentucky	86 (1.1)	9 (1.0)	3 (0.4)	0 (0.2)	1 (0.2)	6 (2.7)	11 (2.8)	23 (3.9)	61 (4.4)
Louisiana	51 (1.9)	41 (1.9)	5 (0.5)	1 (0.7)	1 (0.3)	5 (2.2)	18 (2.6)	10 (2.4)	67 (3.8)
Maine*	92 (0.6)	0 (0.1)	4 (0.7)	1 (0.2)	2 (0.3)	2 (1.5)	2 (1.1)	23 (5.3)	73 (5.3)
Maryland	60 (1.7)	29 (1.3)	6 (0.6)	3 (0.5)	1 (0.3)	20 (3.9)	15 (3.8)	5 (2.0)	60 (5.1)
Massachusetts	81 (1.2)	7 (0.6)	7 (0.6)	3 (0.7)	1 (0.2)	17 (3.4)	14 (2.6)	2 (1.0)	67 (4.3)
Michigan	74 (1.6)	13 (1.6)	8 (0.8)	2 (0.3)	2 (0.3)	10 (3.0)	14 (3.7)	11 (3.6)	65 (5.2)
Minnesota	87 (1.2)	3 (0.5)	6 (0.6)	2 (0.5)	2 (0.2)	13 (3.8)	3 (2.0)	27 (4.0)	58 (5.3)
Mississippi	41 (2.0)	52 (2.2)	5 (1.0)	0 (0.1)	1 (0.3)	1 (1.2)	5 (1.8)	11 (2.3)	82 (3.2)
Missouri	77 (1.7)	14 (1.7)	5 (0.7)	1 (0.2)	2 (0.3)	9 (3.0)	10 (2.9)	27 (4.0)	54 (5.3)
Nebraska*	83 (1.2)	6 (0.6)	8 (1.1)	1 (0.2)	2 (0.3)	8 (2.6)	6 (1.6)	27 (3.8)	59 (4.7)
New Hampshire*	90 (1.0)	1 (0.2)	5 (0.6)	1 (0.2)	2 (0.3)	8 (3.5)	1 (1.2)	5 (2.2)	85 (4.1)
New Jersey*	67 (2.2)	14 (1.6)	13 (1.4)	5 (0.8)	1 (0.2)	30 (4.3)	17 (3.2)	0 (0.0)	53 (4.9)
New Mexico	45 (2.0)	3 (0.4)	46 (1.7)	1 (0.3)	5 (1.2)	6 (3.0)	9 (3.0)	3 (1.9)	81 (4.6)
New York*	61 (2.0)	14 (1.8)	20 (1.8)	4 (1.0)	2 (0.3)	15 (3.4)	23 (3.7)	3 (1.6)	60 (4.6)
North Carolina	63 (2.0)	28 (1.6)	5 (0.6)	1 (0.2)	3 (1.2)	5 (1.7)	4 (2.0)	21 (4.2)	70 (4.9)
North Dakota	93 (1.1)	0 (0.1)	3 (0.5)	0 (0.2)	3 (0.8)	10 (3.2)	2 (1.6)	40 (3.8)	48 (4.6)
Ohio	81 (1.5)	12 (1.3)	5 (0.6)	1 (0.2)	1 (0.2)	10 (2.7)	17 (2.6)	17 (3.9)	56 (5.1)
Oklahoma	72 (1.3)	8 (0.9)	8 (0.8)	1 (0.2)	10 (0.8)	9 (3.1)	11 (3.0)	20 (3.7)	60 (4.4)
Pennsylvania	79 (1.7)	11 (1.6)	8 (1.0)	1 (0.3)	1 (0.2)	14 (4.5)	17 (3.2)	15 (4.1)	54 (5.6)
Rhode Island	76 (2.2)	6 (1.0)	12 (1.3)	4 (0.6)	2 (0.3)	12 (4.0)	24 (4.8)	0 (0.0)	63 (5.6)
South Carolina	55 (1.9)	38 (2.0)	5 (0.7)	1 (0.2)	2 (0.3)	7 (2.5)	6 (1.5)	13 (3.0)	74 (4.0)
Tennessee	71 (1.8)	21 (1.6)	5 (0.7)	1 (0.3)	2 (0.3)	6 (2.8)	13 (3.5)	10 (2.7)	71 (4.6)
Texas	49 (2.1)	14 (1.7)	34 (2.3)	2 (0.3)	1 (0.2)	10 (2.9)	21 (5.1)	11 (3.3)	57 (5.7)
Utah	86 (1.1)	1 (0.1)	10 (0.9)	2 (0.3)	2 (0.5)	19 (3.7)	4 (1.8)	7 (2.7)	70 (4.4)
Virginia	67 (1.6)	24 (1.3)	5 (0.5)	2 (0.5)	2 (0.3)	12 (3.1)	14 (3.1)	14 (3.0)	59 (4.8)
West Virginia	91 (0.7)	2 (0.4)	4 (0.5)	1 (0.2)	2 (0.3)	1 (1.2)	8 (2.4)	16 (3.7)	75 (4.7)
Wisconsin	83 (1.4)	6 (0.8)	8 (0.9)	1 (0.3)	2 (0.8)	9 (2.7)	6 (2.1)	26 (5.2)	60 (5.4)
Wyoming	83 (1.3)	1 (0.1)	12 (0.9)	1 (0.2)	4 (0.9)	6 (2.0)	4 (1.7)	22 (3.3)	68 (4.2)
TERRITORY									
Guam	12 (0.8)	4 (0.4)	18 (0.8)	64 (0.9)	1 (0.3)	0 (0.0)	0 (0.0)	23 (0.2)	77 (0.2)

*Did not satisfy one or more of the guidelines for school sample participation rates (see Appendix B for details).

The standard errors of the estimated percentages appear in parentheses. It can be said with 95 percent certainty that for each population of interest, the value for the whole population is within plus or minus two standard errors of the estimate for the sample. In comparing two estimates, one must use the standard error of the difference (see Appendix for details). Percentages may not total 100 percent due to rounding error. When the proportion of students is either 0 percent or 100 percent, the standard error is inestimable. However, percentages 99.5 percent and greater were rounded to 100 percent and percentages 0.5 percent and less were rounded to 0 percent.

SOURCE: National Assessment of Educational Progress (NAEP), 1992 Reading Assessment.

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TABLE C.2 | Population Characteristics from Non-NAEP Sources

PUBLIC SCHOOLS	Per Capita Income 1991	Gross State Product per School-Age Child 1989	Percent Minority Students 1986	Resident Population Per Square Mile 1990	Percent Public School Students in Large City Populations 1987-88	Percent Students Free Lunch 1987	Status Dropout Rate, Persons Ages 16-19, 1990
NATION	$19,092	$113,935	30.0	70.3	13.2	24	11.2
STATES							
Alabama	15,518	83,707	38.0	79.6	0.0	36	12.6
Arizona	16,579	97,326	37.8	32.3	24.1	23	14.3
Arkansas	14,629	78,086	25.3	45.1	0.0	30	10.9
California	20,847	133,470	46.3	190.8	21.5	26	14.3
Colorado	19,358	109,934	21.3	31.8	11.0	17	9.6
Connecticut	26,022	167,036	22.8	678.4	13.7	14	9.2
Delaware	20,816	129,563	31.7	340.8	0.0	18	11.2
Dist. Columbia	24,063	432,560	---	9882.8	100.0	---	19.1
Florida	18,992	114,340	34.6	239.6	15.2	26	14.2
Georgia	17,436	100,914	39.3	111.9	6.7	28	14.1
Hawaii	21,190	129,422	76.5	172.5	0.0	22	7.0
Idaho	15,333	72,618	7.4	12.2	0.0	19	9.6
Indiana	17,179	98,886	11.3	154.6	5.5	15	11.4
Iowa	17,296	101,299	5.4	49.7	0.0	18	6.5
Kentucky	15,626	91,980	10.8	92.8	0.0	31	13.0
Louisiana	15,046	86,869	43.5	96.9	10.5	46	11.9
Maine	17,454	106,700	1.7	39.8	0.0	16	8.4
Maryland	22,189	123,380	40.3	489.2	15.0	18	11.0
Massachusetts	23,003	156,700	16.3	767.6	7.5	16	9.5
Michigan	18,655	103,252	23.6	163.6	11.1	18	9.9
Minnesota	19,125	116,803	6.1	55.0	5.9	15	6.1
Mississippi	13,328	67,376	56.1	54.9	0.0	52	11.7
Missouri	17,928	106,924	16.6	74.3	7.5	22	11.2
Nebraska	17,718	102,016	8.6	20.5	0.0	18	6.6
New Hampshire	21,760	125,662	2.0	123.7	0.0	8	9.9
New Jersey	25,666	158,145	30.9	1042.0	10.7	17	9.3
New Mexico	14,644	79,419	56.9	12.5	0.0	35	10.8
New York	22,471	144,898	31.6	381.0	39.2	30	10.1
North Carolina	16,853	110,335	31.6	136.1	0.0	25	13.2
North Dakota	15,605	87,062	7.6	9.3	0.0	19	4.3
Ohio	17,770	103,902	16.9	264.9	7.4	18	8.8
Oklahoma	15,541	84,559	21.0	45.8	11.8	24	9.9
Pennsylvania	19,306	111,769	15.6	265.1	13.2	19	9.4
Rhode Island	19,207	116,093	12.1	960.3	16.1	17	12.9
South Carolina	15,467	87,174	45.4	115.8	0.0	32	11.9
Tennessee	16,486	100,838	23.5	118.3	21.6	26	13.6
Texas	17,230	97,886	49.0	64.9	24.3	30	12.5
Utah	14,625	61,700	6.3	21.0	0.0	14	7.9
Virginia	20,082	131,373	27.4	156.3	0.0	17	10.4
West Virginia	14,301	79,099	4.1	74.5	0.0	28	10.6
Wisconsin	17,939	104,536	13.4	90.1	8.4	17	6.9
Wyoming	16,937	111,150	9.3	4.7	0.0	14	6.3

Per Capita Income 1991 -- Source: U.S. Department of Commerce, Bureau of Economic Analysis, *Survey of Current Business*, August 1992. Data are estimates and are reported in current dollars. **Gross State Product per School-Age Child, 1989** -- Source: Gross State Product figures: *Survey of Current Business*, Volume 71, No. 12, December 1991, U.S. Department of Commerce; School-Age Child figures: *Current Population Report*, Series P-25, No. 1058, U.S. Bureau of the Census. Note: Calculated using 1989 Census data for resident persons age 5-17 years. **Percent Minority Students, 1986** -- Source: *Elementary and Secondary School Civil Rights Survey*, *State Summaries of Projected Data*, U.S. Department of Education, Office of Civil Rights. Reprinted in *Results in Education: 1989*, National Governors' Association. **Resident Population per Square Mile, 1990** -- Source: Table 26 in *Statistical Abstract of the United States: 1991*, Washington, DC, (111th Edition), U.S. Bureau of the Census. **Percent Public School Students in Large City Population, 1987-88** -- Source: *Assigning Type of Locale Codes to the 1987-88 CCD Public School Universe*, U.S. Department of Education, National Center for Education Statistics. Reprinted in *Results in Education: 1989*, Washington, DC, National Governors' Association. **Percent Students Free Lunch, 1987** -- Source: Calculated from data provided by U.S. Department of Agriculture, Food and Nutrition Service, 1987; and *Statistical Abstract of the United States: 1987*. Reprinted in *Results in Education: 1989*, Washington, DC, National Governors' Association. **Status Dropout Rate, Persons Ages 16-19, 1990** -- Source: 1990 Census datain Table C1 in *Dropout Rates in the United States: 1991*, U.S. Department of Education, National Center for Education Statistics, 1992.

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TABLE C.3 | School System Characteristics from Non-NAEP Sources

PUBLIC SCHOOLS	Current Expenditure Per Pupil 1989-90	Percent of Total Current Expenditures, by Function				Pupil-Teacher Ratio Fall 1990	Average Annual Teacher Salary	
		Instruction	Support Services	Non-Instructional	Direct Support		(NEA) 1990-91	(AFT) 1990-91
NATION	$4,960	58.2	33.8	4.5	3.5	17.2	$32,977	$32,880
STATES								
Alabama	3,327	61.9	29.4	8.7	0.0	19.9	26,862	26,846
Arizona	4,057	58.3	36.7	4.8	0.2	19.4	30,773	30,773
Arkansas	3,485	52.4	29.7	8.4	9.5	16.8	23,611	23,735
California	4,391	56.6	37.4	3.8	2.2	22.8	39,598	39,118
Colorado	4,720	60.2	36.8	3.0	0.0	17.8	31,819	31,819
Connecticut	7,604	54.9	30.6	1.0	13.5	13.6	43,808	43,398
Delaware	5,696	67.7	30.4	1.9	0.0	16.7	35,245	35,246
Dist. Columbia	8,904	45.3	37.0	4.2	13.6	13.6	39,497	39,362
Florida	4,997	57.8	37.1	5.0	0.0	17.2	30,555	30,555
Georgia	4,187	61.8	31.1	6.0	1.0	18.3	29,172	28,950
Hawaii	4,448	60.1	32.9	7.0	0.0	18.9	32,451	33,548
Idaho	3,078	58.4	31.0	5.0	5.6	19.6	25,485	25,510
Indiana	4,549	58.0	31.8	4.7	5.6	17.5	32,434	32,931
Iowa	4,453	60.0	35.5	4.4	0.0	15.6	27,977	27,949
Kentucky	3,675	51.5	30.9	4.6	12.9	17.3	29,115	29,115
Louisiana	3,855	58.5	32.1	8.4	1.0	---	26,240	26,170
Maine	5,373	57.3	28.8	2.8	11.1	13.9	28,531	28,531
Maryland	6,196	52.5	32.4	3.5	11.6	16.8	38,382	38,312
Massachusetts	6,237	55.5	35.7	3.1	5.7	15.4	36,090	36,090
Michigan	5,546	51.8	36.5	3.0	8.7	19.8	38,326	37,800
Minnesota	4,971	63.3	32.3	4.1	0.3	17.3	33,126	33,128
Mississippi	3,096	62.4	28.3	8.1	1.2	17.9	24,355	24,609
Missouri	4,507	60.5	35.1	4.5	0.0	15.5	28,290	27,638
Nebraska	4,842	60.9	29.2	9.7	0.3	14.8	25,592	26,592
New Hampshire	5,304	62.3	34.2	3.5	0.0	16.2	31,273	31,273
New Jersey	7,991	53.1	34.3	2.6	10.1	13.6	38,411	38,411
New Mexico	3,518	58.2	35.9	4.8	0.0	18.1	25,754	25,800
New York	8,062	66.0	30.9	3.1	0.0	14.7	42,080	42,080
North Carolina	4,268	62.1	30.7	6.6	0.6	16.9	29,276	29,165
North Dakota	4,189	60.3	31.8	7.9	0.0	15.5	23,574	23,574
Ohio	5,136	56.6	38.2	5.2	0.0	17.2	32,615	31,964
Oklahoma	3,512	57.0	29.2	5.7	8.1	15.6	24,457	24,378
Pennsylvania	6,061	57.4	32.4	3.8	6.5	16.6	35,057	36,057
Rhode Island	5,249	6301	30.8	1.8	4.2	14.6	34,997	38,220
South Carolina	4,088	57.9	30.7	9.2	2.2	15.8	28,301	28,174
Tennessee	3,664	59.4	26.7	7.0	6.9	19.2	28,248	28,248
Texas	4,150	55.5	31.2	6.3	6.9	15.4	27,658	28,100
Utah	2,730	65.0	28.7	6.3	0.0	25.0	25,578	25,415
Virginia	4,512	60.1	35.9	3.9	0.0	15.7	32,239	32,692
West Virginia	4,359	50.0	29.7	6.1	14.2	15.0	25,967	25,955
Wisconsin	5,524	62.4	34.3	3.2	0.0	16.2	33,209	33,077
Wyoming	5,577	59.1	37.4	3.5	0.0	14.5	28,588	28,995
TERRITORY								
Guam	---	---	---	---	---	---	---	---

Current Expenditure per Pupil, 1989-90 -- Source: Table 157, "Current expenditure per pupil in average daily attendance in public elementary and secondary schools, by State: 1959-60 to 1989-90", *Digest of Education Statistics, 1992*. U.S. Department of Education, National Center for Education Statistics, Common Core of Data Surveys. Note: Amounts are in current dollars. **Percent of Total Current Expenditures, by Function** -- Source: Table 154, "Current expenditures for public elementary and secondary education, by function and State: 1989-90", *Digest of Education Statistics, 1992*. U.S. Department of Education, National Center for Education Statistics, Common Core of Data Surveys. Note: Excludes expenditures for State education agencies. **Pupil-Teacher Ratio, Fall 1990** -- Source: Table 64, "Teachers, enrollment, and pupil-teacher ratios in public elementary and secondary schools, by State: Fall 1985 to 1990", *Digest of Education Statistics, 1992*, U.S. Department of Education, National Center for Education Statistics, Common Core of Data Surveys. [1]U.S. total includes imputation for nonreporting State. Note: Teachers reported in full-time equivalents. **Average Annual Teacher Salary (NEA)** -- Source: Table 74, "Estimated average annual salary of teachers in public elementary and secondary schools, by State: 1969-70 to 1990-91", *Digest of Education Statistics, 1992*, U.S. Department of Education, National Center for Education Statistics. **Average Annual Teacher Salary (AFT)** -- Source: Table 75, "Minimum and average teacher salaries, by State: 1989-90 and 1990-91", *Digest of Education Statistics, 1991*. U.S. Department of Education, National Center for Education Statistics. Note: Data in this table reflect results of surveys conducted by the American Federation of Teachers. Because of differing survey and estimation methods, these data are not entirely comparable with figures appearing in other columns and tables.

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TABLE C.4 | Curricula and School Policies from Non-NAEP Sources

PUBLIC SCHOOLS	Length of the School Year 1990	Length of the School Day, Grades 7-8, 1990	Units Required in English 1990	Competency Test Required 1990
STATES				
Alabama	175	6.0	4.0	YES
Arizona	175	6.0	4.0	NO
Arkansas[1]	178	5.5	4.0	YES
California[2]	180	5.0	3.0	YES
Colorado	1080 HRS	-.-	-.-	NO
Connecticut	180	4.0	4.0	NO
Delaware	180	6.0	4.0	NO
Dist. Columbia	180	6.0	4.0	NO
Florida	180	5.0	4.0	NO
Georgia	180	6.0	4.0	YES
Hawaii	180	6.0	4.0	YES
Idaho	180	5.5	4.0	NO
Indiana	180	6.0	3.0	NO
Iowa	180	5.5	-.-	NO
Kentucky	175	6.0	4.0	NO
Louisiana	180	5.5	4.0	YES
Maine	175	5.0	4.0	YES
Maryland	180	6.0	4.0	NO
Massachusetts	180	5.0	-.-	NO
Michigan	180	-.-	-.-	NO
Minnesota	175	6.0	4.0	NO
Mississippi	180	-.-	4.0	YES
Missouri	174	3.0-7.0	3.0	NO
Nebraska	1010 HRS	-.-	-.-	YES
New Hampshire	180	5.5	4.0	NO
New Jersey	180	4.0	4.0	YES
New Mexico	180	6.0	4.0	YES
New York	180	5.5	4.0	YES
North Carolina	180	5.5	4.0	YES
North Dakota	180	5.5	4.0	NO
Ohio	182	5.5	3.0	NO
Oklahoma	175	6.0	4.0	NO
Pennsylvania	180	5.5	4.0	NO
Rhode Island	180	5.5	4.0	NO
South Carolina	180	6.0	4.0	YES
Tennessee	180	6.5	4.0	YES
Texas	175	7.0	4.0	YES
Utah	180	5.5	3.0	NO
Virginia	180	5.5	4.0	NO
West Virginia[3]	180	5.5	4.0	NO
Wisconsin	180	6.5	4.0	NO
Wyoming	175	6.0	-.-	NO
TERRITORY				
Guam	-.-	-.-	-.-	-.-

[1] Oral communication may be substituted in twelfth grade. [2] Four units are required for college bound students. [3] A one-half unit of speech may be substituted. (-.-) No statewide policy.

SOURCE: Council of Chief State School Officers' 1990 Policies and Practices Questionnaire, Tables 13, 14, and 16 in *State Education Indicators, 1990*, Washington, DC, Council of Chief State School Officers.

APPENDIX D

Released Reading Passages

SYBIL SOUNDS THE ALARM

by Drollene P. Brown

A red sky at night does not usually cause wonder. But on the evening of April 26, 1777, the residents of Ludingtons' Mills were concerned. The crimson glow was in the east, not from the west where the sun was setting.

The Ludington family sat at supper, each one glancing now and again toward the eastern window. Sybil, at sixteen the oldest of eight children, could read the question in her mother's worried eyes. Would Henry Ludington have to go away again? As commander of the only colonial army regiment between Danbury, Connecticut, and Peekskill, New York, Sybil's father did not have much time to be with his family.

Thudding hooves in the yard abruptly ended their meal. The colonel pushed back his chair and strode to the door. Although Sybil followed him with her eyes, she dutifully began to help her sister Rebecca clear the table.

The girls were washing dishes when their father burst back into the room with a courier at his side.

"Here, Seth," said the colonel, "sit you down and have some supper. Rebecca, see to our weary friend."

Sybil, glancing over her shoulder, saw that the stranger was no older than she. A familiar flame of indignation burned her cheeks. Being a girl kept her from being a soldier!

Across the room, her parents were talking together in low tones. Her father's voice rose.

"Sybil, leave the dishes and come here," he said.

Obeying quickly, she overheard her father as he again spoke to her mother.

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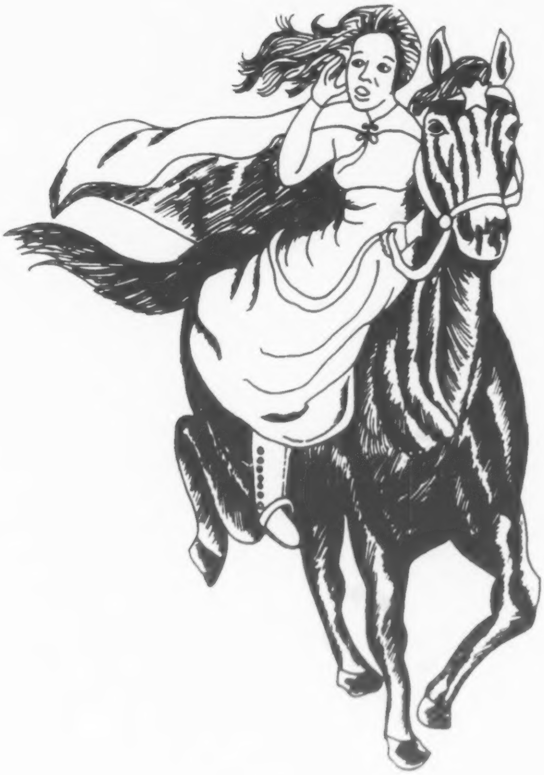

"Abigail, she is a skilled rider. It is Sybil who has trained Star, and the horse will obey her like no other."

"That red glow in the sky," Colonel Ludington said, turning now to his daughter, "is from Danbury. It's been burned by British raiders. There are about two thousand Redcoats, and they're heading for Ridgefield. Someone must tell our men that the lull in the fighting is over; they will have to leave their families and crops again."

"I'll go! Star and I can do it!" Sybil exclaimed. She faced her mother. "Star is sure of foot, and will carry me safely."

"There are dangers other than slippery paths," her mother said, softly. "Outlaws or deserters or Tories or even British soldiers may be met. You must be wary in a way that Star cannot."

A lump rose in Sybil's throat. "I can do it," she declared.

Without another word, Abigail Ludington turned to fetch a woolen cape to protect her daughter from the wind and rain. One of the boys was sent to saddle Star, and Sybil was soon ready. When she had swung up on her sturdy horse, the colonel placed a stick in her hand.

As though reciting an oath, she repeated her father's directions: "Go south by the river, then along Horse

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Pound Road to Mahopac Pond. From there, turn right to Red Mills, then go north to Stormville." The colonel stood back and saluted. She was off!

At the first few isolated houses, windows or doors flew open as she approached. She shouted her message and rode on. By the time she reached the first hamlet, all was dark. There were many small houses there at the edge of Shaw's Road, but everyone was in bed. Lights had not flared up at the sound of Star's hoofbeats. Sybil had not anticipated this. Biting her lower lip, she pulled Star to a halt. After considering for a moment, she nudged the horse forward, and riding up to one cottage after another, beat on each door with her stick.

"Look at the sky!" she shouted. "Danbury's burning! All men muster at Ludingtons'!"

At each village or cluster of houses, she repeated the cry. When lights began to shine and people were yelling and moving about, she would spur her horse onward. Before she and Star melted into the night, the village bells would be pealing out the alarm.

Paths were slippery with mud and wet stones, and the terrain was often hilly and wooded. Sybil's ears strained for sounds of other riders who might try to steal her horse or stop her mission. Twice she pulled Star off the path while unknown riders passed within a few feet. Both times, her fright dried her mouth and made her hands tremble.

By the time they reached Stormville, Star had stumbled several times, and Sybil's voice was almost gone. The town's call to arms was sounding as they turned homeward. Covered with mud, tired beyond belief, Sybil could barely stay on Star's back when they rode into their yard. She had ridden more than thirty miles that night.

In a daze, she saw the red sky in the east. It was the dawn. Several hundred men were milling about. She had roused them in time, and Ludington's regiment marched out to join the Connecticut militia in routing the British at Ridgefield, driving them back to their ships on Long Island Sound.

Afterward, General George Washington made a personal visit to Ludingtons' Mills to thank Sybil for her courageous deed. Statesman Alexander Hamilton wrote her a letter of praise.

Two centuries later visitors to the area of Patterson, New York, can still follow Sybil's route. A statue of Sybil on horseback stands at Lake Gleneida in Carmel, New York, and people in that area know well the heroism of Sybil Ludington. In 1978, a commemorative postage stamp was issued in her honor, bringing national attention to the heroic young girl who rode for independence.

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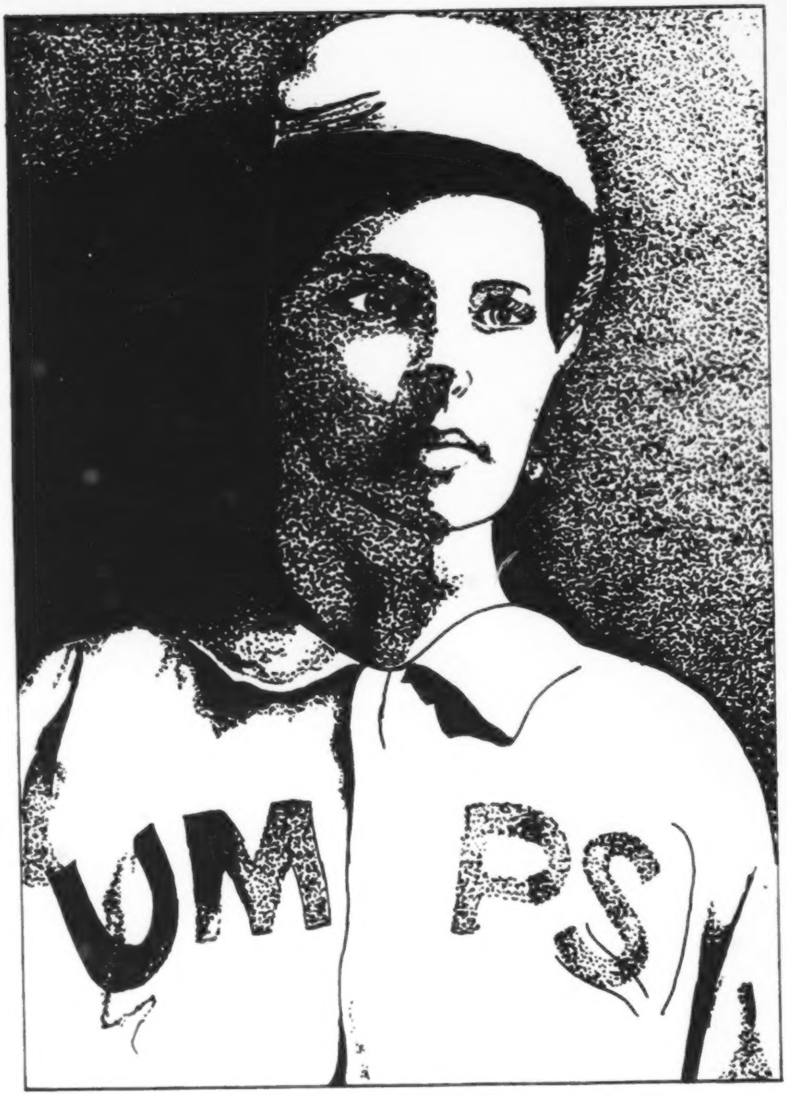
Amanda Clement: The Umpire in a Skirt

Marilyn Kratz



IT WAS A HOT SUNDAY AFTERNOON in Hawarden, a small town in western Iowa. Amanda Clement was sixteen years old. She sat quietly in the grandstand with her mother, but she imagined herself right out there on the baseball diamond with the players. Back home in Hudson, South Dakota, her brother Hank and his friends often asked her to umpire games. Sometimes she was even allowed to play first base.

Today, Mandy, as she was called, could only sit and watch Hank pitch for Renville against Hawarden. The year was 1904, and girls were not supposed to participate in sports. But when the umpire for the preliminary game between two local teams didn't arrive, Hank asked Mandy to make the calls.

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Mrs. Clement didn't want her daughter to umpire a public event, but at last Hank and Mandy persuaded her to give her consent. Mandy eagerly took her position behind the pitcher's mound. Because only one umpire was used in those days, she had to call plays on the four bases as well as strikes and balls.

Mandy was five feet ten inches tall and looked very impressive as she accurately called the plays. She did so well that the players for the big game asked her to umpire for them—with pay!

Mrs. Clement was shocked at that idea. But Mandy finally persuaded her mother to allow her to do it. Amanda Clement became the first paid woman baseball umpire on record.

Mandy's fame spread quickly. Before long, she was umpiring games in North and South Dakota, Iowa, Minnesota, and Nebraska. Flyers, sent out to announce upcoming games, called Mandy the "World Champion Woman Umpire." Her uniform was a long blue skirt, a black necktie, and a white blouse with UMPS stenciled across the front. Mandy kept her long dark hair tucked inside a peaked cap. She commanded respect and attention—players never said, "Kill the umpire!" They argued more politely, asking, "Beg your pardon, Miss Umpire, but wasn't that one a bit high?"

Mandy is recognized in the Baseball Hall of Fame in Cooperstown, New York; the Women's Sports Hall of Fame; and the Women's Sports Foundation in San Francisco, California. In 1912 she held the world record for a woman throwing a baseball: 279 feet.

Mandy's earnings for her work as an umpire came in especially handy. She put herself through college and became a teacher and coach, organizing teams and encouraging athletes wherever she lived. Mandy died in 1971. People who knew her remember her for her work as an umpire, teacher, and coach, and because she loved helping people as much as she loved sports.

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THE FICTION OF

ANNE FRANK

ANNE FRANK

is best known as the writer of *Anne Frank: The Diary of a Young Girl*. She kept this diary while she, her parents, her sister, and four other Jews hid in the "Secret Annex" (the attic of a building in Holland) to escape persecution by Hitler and the Nazis during World War II. Anne was thirteen years old when she began keeping her diary on June 12, 1942. Two years later, in August 1944, the Nazis raided the Annex. Anne died seven or eight months later in a concentration camp. She was fifteen years old.

Anne's diary was first published in 1947. Since then it has been translated and published throughout the world. Through the publication of her diary, Anne has come to symbolize to the world the six million Jews killed by the Nazis.

Although Anne's diary is read throughout the world, her fiction is not as well known. In 1943-1944, Anne wrote a number of stories and began a novel, now published in *Tales from the Secret Annex*. Anne states in her diary that she wanted to be a famous writer. Her fiction, like her diary, shows that she was indeed talented. The following excerpt is from her unfinished novel, *Cady's Life*.

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CADY'S LIFE

by Anne Frank

IT was a hard time for the Jews. The fate of many would be decided in 1942. In July they began to round up boys and girls and deport them. Luckily Cady's girl friend Mary seemed to have been forgotten. Later it wasn't just the young people, no one was spared. In the fall and winter Cady went through terrible experiences. Night after night she heard cars driving down the street, she heard children screaming and doors being slammed. Mr. and Mrs. Van Altenhoven looked at each other and Cady in the lamplight, and in their eyes the question could be read: "Whom will they take tomorrow?"

One evening in December, Cady decided to run over to Mary's house and cheer her up a little. That night the noise in the street was worse than ever. Cady rang three times at the Hopkens's and when Mary came to the front of the house and looked cautiously out of the window, she called out her name to reassure her. Cady was let in. The whole family sat waiting in gym suits, with packs on their backs. They all looked pale and didn't say a word when Cady stepped into the room. Would they sit there like this every night for months? The sight of all these pale, frightened faces was terrible. Every time a door slammed outside, a shock went through the people sitting there. Those slamming doors seemed to symbolize the slamming of the door of life.

At ten o'clock Cady took her leave. She saw there was no point in her sitting there, there was nothing she could do to help or comfort these people, who already seemed to be in another world. The only one who kept her courage up a little was Mary. She nodded to Cady from time to time and tried desperately to get her parents and sisters to eat something.

Mary took her to the door and bolted it after her. Cady started home with her little flashlight. She hadn't taken five steps when she stopped still and listened; she heard steps around the corner, a whole regiment of soldiers. She couldn't see much in the darkness, but she knew very well who was coming and what it meant. She flattened herself against a wall, switched off her light, and hoped the men wouldn't see her. Then suddenly one of them stopped in front of her, brandishing a pistol and looking at her with threatening eyes and a cruel face. "Come!" That was all he said, and immediately she was roughly seized and led away.

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"I'm a Christian girl of respectable parents," she managed to say. She trembled from top to toe and wondered what this brute would do to her. At all costs she must try to show him her identity card.

"What do you mean respectable? Let's see your card."

Cady took it out of her pocket.

"Why didn't you say so right away?" the man said as he looked at it. "*So ein Lumpenpack!*"* Before she knew it she was lying on the street. Furious over his own mistake, the German had given the "respectable Christian girl" a violent shove. Without a thought for her pain or anything else, Cady stood up and ran home.

After that night a week passed before Cady had a chance to visit Mary. But one afternoon she took time off, regardless of her work or other appointments. Before she got to the Hopkens's house she was as good as sure she wouldn't find Mary there, and, indeed, when she came to the door, it was sealed up.

Cady was seized with despair. "Who knows," she thought, "where Mary is now?" She turned around and went straight back home. She went to her room and slammed the door. With her coat still on, she threw herself down on the sofa, and thought and thought about Mary.

Why did Mary have to go away when she, Cady, could stay here? Why did Mary have to suffer her terrible fate when *she* was left to enjoy herself? What difference was there between them? Was she better than Mary in any way? Weren't they exactly the same? What crime had Mary committed? Oh, this could only be a terrible injustice. And suddenly she saw Mary's little figure before her, shut up in a cell, dressed in rags, with a sunken, emaciated face. Her eyes were very big, and she looked at Cady so sadly and reproachfully. Cady couldn't stand it anymore, she fell on her knees and cried and cried, cried till her whole body shook. Over and over again she saw Mary's eyes begging for help, help that Cady knew she couldn't give her.

"Mary, forgive me, come back . . ."

Cady no longer knew what to say or to think. For this misery that she saw so clearly before her eyes there were no words. Doors slammed in her ears, she heard children crying and in front of her she saw a troop of armed brutes, just like the one who had pushed her into the mud, and in among them, helpless and alone, Mary, Mary who was the same as she was.

---

*"*Such a bunch of scoundrels.*"

Excerpted from *Cady's Life* by Anne Frank. Copyright © 1949, 1960 by Otto Frank. Copyright © 1982 by Anne Frank Fund, Basel. English translation copyright © 1983 by Doubleday. Used by permission of Doubleday & Co.

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I AM ONE

I am only one,
But still I am one.
I cannot do everything,
But still I can do something;
And because I cannot do everything
I will not refuse to do the something that I can do.

—EDWARD EVERETT HALE

Edward Everett Hale, "I Am One," from *Against the Odds*. Copyright © 1967 by Charles E. Merril. Reprinted by permission of the publisher.

Passage 1

The Oregon Trail

Americans have long been thought of as a restless group of people. They seem to have always been on the move, searching for a better place to live. From America's first colonies small groups of people uprooted themselves, migrating westward to look for better farmland. They built pioneer roads, or trails, such as the Cumberland Road that led into the Ohio Valley, and the Genesee Road that led across New York to the shores of Lake Erie. Many of these roads and trails have disappeared. Others can still be traced, revealing artifacts along the way that help us to recreate their story.

The Oregon Trail is one of these trails. Even today you can retrace its path, walking beside wagon ruts that were gouged almost a century and a half ago. The Oregon Trail was different from the earlier trails and roads that had crossed the Appalachian Mountains in the East. It was longer and more difficult than most pioneers had experienced. Unlike the eastern trails, the Oregon Trail crossed nearly 2,000 miles of unfamiliar prairie, desert, and mountainous regions. There were no settlements along the way that could offer friendly hospitality, and emigrants couldn't scout out their new homeland before they moved there. Oregon Country was so far away, it took from four to six months to get there. When people moved there, they moved to stay.

The story of the Oregon Trail and the people who used it begins when the trail was an ancient Indian footpath used by explorers and fur traders. Independence, Missouri, was the frontier town that served as the starting place. The trail wound westward, following the banks of the Platte, North Platte, and Snake Rivers. It crossed the Rockies through the South Pass, crossed the Blue Mountains further north, and ended in Oregon Country at a place called The Dalles. From The Dalles, anyone continuing on to the Willamette Valley floated down the Columbia River. Up until the mid-1830s, no wagon had ever made the trip.

It is difficult for us to imagine Oregon Country as it was a century and a half ago. A vast wilderness that stretched from the crest of the Rockies to the Pacific coast, it included the present states of Oregon, Washington, and Idaho. The area was inhabited by several tribes of Indians, including the Cayuse, Umatilla, and Nez Perce. There were some trappers and traders in the region, but to most, the area was too far away and too strange for them to consider settling there.

President Thomas Jefferson was the first to actively encourage exploration of Oregon Country. After the Louisiana Purchase of 1803, he sent Meriwether Lewis and William Clark into the area to seek a trade route to the Pacific. Jefferson knew that their explorations would help the United States strengthen its claim to the Pacific Northwest.

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It is important to remember that for the first half of the nineteenth century both Great Britain and the United States occupied the Pacific Northwest. Great Britain already had a strong claim to the land that was to become Canada, and the Hudson's Bay Company had many fur trading posts in the Pacific Northwest. There were American fur trading posts as well, such as the American Fur Company organized by John Jacob Astor in 1808.

In 1818, Great Britain and the United States signed a treaty that allowed both countries to occupy the area, but it was not until the 1830s that Americans began moving in. Missionaries, such as Marcus and Narcissa Whitman, were among the first settlers. When people learned that the Whitmans had journeyed successfully over the Oregon Trail in 1836, they began to think differently about Oregon Country. The fact that a woman had made the journey safely, and that the Whitmans had traveled with a wagon, encouraged others to think that they could make the journey, too.

In fact, when Dr. Whitman returned East in 1842 to help promote his missionary work, he found many people who were eager to travel to Oregon Country. In 1843, some 1,000 people and 2,000 animals joined Dr. Whitman and a surveyor named Jesse Applegate as they led a wagon train over the Oregon Trail. The "great migration"—one of the greatest migrations in recorded history—had begun.

Why were so many people going to Oregon Country? Some said they had Oregon fever, a "disease" that made them restless, hungry for new land, and eager for adventure. But why were they going all the way to Oregon Country? One very important reason was that the United States government was encouraging them to do so. Since Thomas Jefferson's presidency, our government had come a long way toward believing that the United States should stretch from coast to coast. If Americans were to settle the Oregon Country in large numbers, our claim to the land would be strengthened.

One man in particular wrote reports about the Oregon Country that were designed to make people want to go there. His name was John Charles Frémont (1813-90). He was a soldier, explorer, and political leader who, in 1838, was asked to be the chief assistant in mapping the upper waters of the Mississippi and Missouri rivers. He wrote very detailed descriptions of his explorations, and his reports were reprinted and read by many people. It was Frémont who wrote guidebooks for emigrants who were encouraged to settle in Oregon Country and help wrest it from British control.

As Americans began pouring into the Willamette River valley in the 1840s, a dispute between Great Britain and the United States almost caused a war. The biggest disagreement was over the northern boundary of the Oregon Country. The British wanted the boundary to be on the north bank of the Columbia River. The Americans wanted it further north on the 54th Parallel. After careful negotiations, war was prevented when the two countries signed the Oregon Treaty of 1846. They agreed to compromise, placing the boundary on the 49th Parallel extending to Puget Sound and leaving Vancouver Island as a part of Canada.

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The Oregon Treaty gave the United States undisputed claim to the Pacific Northwest, encouraging even more emigrants to move west. By the 1850s, the Oregon Trail had become a series of parallel wagon ruts that could be seen even in solid rock. Oregon Country officially became the Oregon Territory in 1848. In 1859, the state of Oregon was created and admitted to the Union as the 33rd state. Twenty years earlier the area had been an unknown wilderness!

What was it like to travel on the Oregon Trail in the 1840s and 1850s? Fortunately there are many accounts that have survived, written by the people who used the trail and who wanted to preserve their experiences for later generations. The story of the Sager children was preserved by three of the Sager girls who survived. Diaries, such as the one handed down to Jean Burroughs, provide eyewitness accounts of the daily travel. When we read these accounts, we can easily imagine the hardship, the anxiety, and the excitement the emigrants must have experienced.

According to several historians, at least 30,000 emigrants died on the Oregon Trail between 1843 and 1859. You might say that there is an average of one grave for every 100 yards of trail from the Missouri River to the Willamette River! Why did so many people die? Cholera, a disease that spreads when there are filthy conditions caused by garbage and sewage, claimed thousands of lives. Emigrants passed through, and sometimes camped near, the refuse left by earlier wagon trains. Other diseases caused people to die, but cholera was probably the most common.

Accident was another common cause of death. Children often hurt themselves as the wagons rolled along. Doctors were not always available, and even when they were they often lacked necessary supplies. Most of the emigrants were simply not prepared for the difficult journey ahead, and they were careless.

There were some problems as the emigrants passed through Indian territory. Indian attacks usually took the form of raids on the livestock, but few people were ever killed. The Indians owned much of the land on both sides of the Oregon Trail, and the emigrants were trespassing. Some tribal leaders demanded payment as the wagon trains rolled through, and, if the emigrants cooperated, there was no further trouble. In other instances, the Indians made a surprise attack, took livestock, and left the wagons unharmed.

It would be several years later, in the 1860s, when the Indians would finally realize that their homelands had been lost forever. Tribal chiefs, such as Red Cloud and Crazy Horse, both of the Oglala Sioux, devoted their lives to trying to save their homelands and people. But the idea that the United States should stretch from coast to coast had already taken hold. The Oregon Trail, no longer just a footpath, had opened the way to the West.

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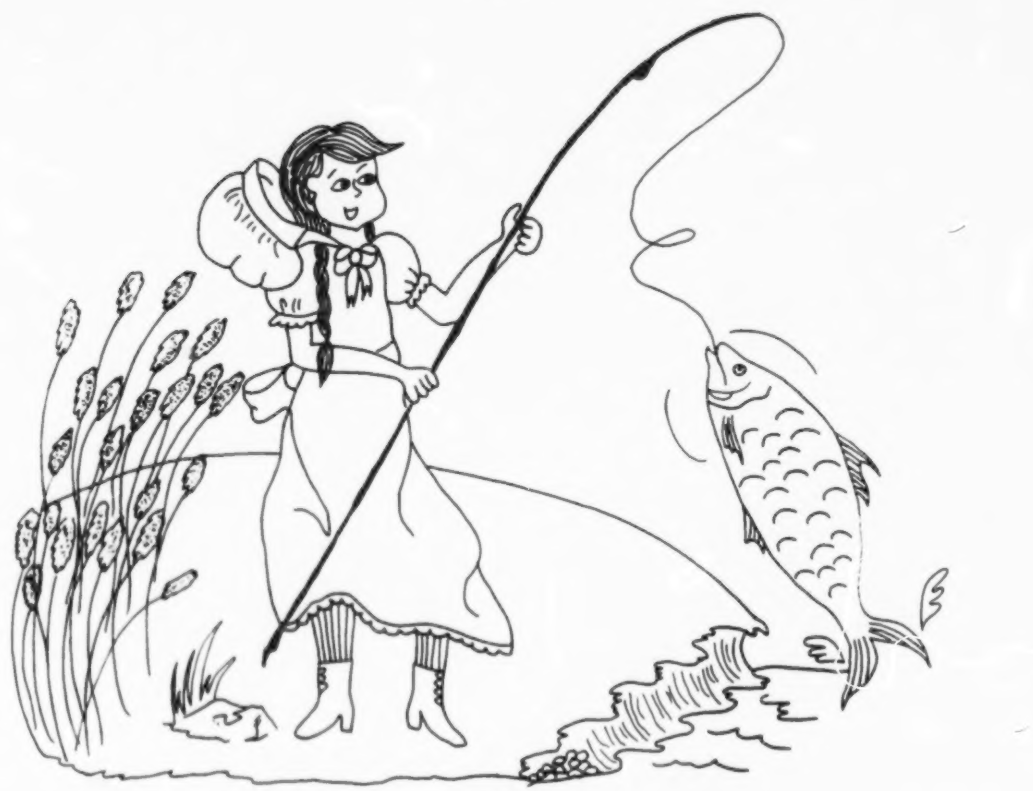
Passage 2



Nettie's Big Fish

by Jean M. Burroughs

"Here's your baited hook and line, Daughter. See what you can land. Every family in our wagon train needs fresh fish for supper." Nettie Emory's father stood by her on the banks of the North Platte River late one evening in June, 1863. "And mind you keep your shoes on this time, Pet."

Nettie drew down the corners of her mouth in disappointment. She'd been counting on cool water and squishy mud to cool her feet, hot and sweaty from her high-topped, laced shoes. She knew her father was referring to the time she had wandered from camp to gather "yellow roses," the enticing blooms of prickly pear cactus. Stepping on dozens of stickers in her bare feet was a painful experience she would never forget. She'd never seen cactus before so how was she supposed to know?

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Now, holding her line and hook high, Nettie edged closer to the water, hoping against hope she would catch a fish. Otherwise, it was going to be salt bacon and corn pone for supper again. After several weeks on the Oregon Trail, their supply of meat was used up. Even wild game had been scarce, and they had not yet reached the plentiful buffalo on the plains. She was certainly tired of the monotonous diet.

Nettie's father called back over his shoulder. "Remember there's quicksand and sinkholes. Test the ground before you step. Stay close to me. Good luck, Blackie."

Nettie grinned at her father's use of her nickname, given because of her dark hair and eyes. Her French mother preferred Minette, but had agreed to the shortened form of Nettie. An only child, the nine-year-old girl answered to all the names that her loving parents called her. She was proud that her father had been chosen wagon master to lead the train over the plains and mountains to faraway Oregon. Perhaps if she caught a fish, he'd be proud of her too, just as he was when she drove the ox team safely during her mother's illness. She wanted to help him during this difficult journey as much as she could.

She watched him and the other men choose places to cast their lines at the water's edge. Some waded into the shallows near the sand islands in the river where the current was running swifter because of a recent rain. Through a thicket of willows she edged closer to where a quiet pool had formed under the tree roots. Just the place for a fish to hide, she thought. She quietly dropped her hook, watching it sink to the bottom. Then she waited, swinging her sun-bonnet strings back and forth to brush off the gnats and mosquitoes that hummed around her face.

She waited. She waited, but no fish rose to her bait. As she slid down the riverbank she kept her father's black hat in sight. Her line drifted faster with the fresh current. Fishing can be tiresome, she fretted, but it's better than just watching the trail from the back of our crowded wagon.

None of the men had caught a fish so far. She squinted at the sun, well above the horizon of the summer sky. There's plenty of time before supper fires are lighted, she thought. With her left hand she slapped at a pesky mosquito again; her right hand tightened its grip on the pole. A sudden jerk on the line caused her to stumble forward to keep her balance. A bite! A bite! The pull on her line was steady and strong. She lifted her pole and it bent forward. It surely must be a big one.

And it was a big one, big enough to pull Nettie dangerously toward the water. Her breath came in gasps. She dug in the heels of her sturdy shoes, glad now that she wasn't barefoot. She couldn't back up because the end of the line was moving fast toward the center of the river. She could no longer see her father's hat because of the tall rushes growing at water's edge.

Grimly, she held on. Her feet were already soaked. Would her next step be into quicksand? The line moved downstream, dragging Nettie into ankle-deep, then knee-deep water. She was excited about the catch and dared not let go. She also was becoming a little frightened.

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"Papa, Papa, I've got a big one!" she cried. "It's pulling me into the river!" Her voice was lost in the evening breeze that stirred the rushes. "Papa, can't you hear me?"

How much longer could she hold on? She used all her strength. Her shoulders ached from the strain. "Help! Help!" she shouted to anyone who might hear her. She turned her body so that the line wrapped around her hips. Her legs sank deeper into the sandy bottom. Muddy water billowed out her full skirt. "I'm like an umbrella," she laughed to herself. "Now maybe they'll see me."

Fresh fish or dry salt bacon: the very thought gave her extra endurance. Not just for her own family, but the other wagon people who were also hungry for a change in diet. Drawing a deeper breath, she called hoarsely, "Save me! Save my fish!"

An answering shout gave her courage. She heard footsteps splashing nearer. "Blackie, hold on. Pull back," called her father. Other men dropped their poles and ran to help. Josiah Emory placed his body in front of his little girl's, grabbing the line with his strong hands. Nettie clung to the pole while her father slowly, steadily, pulled in the line. Soon a flashing, grey body flapped in and out of the water. "It's a big catfish, Blackie, a really huge one. Good girl! I'm proud of you." Only then did Nettie let go. He lifted the pole with a grunt at the unexpected weight. Indeed, it was a huge fish. Her father guessed it was over three feet long and more than twenty-five pounds.

Sloshing back to the wagon, muddy and exhausted, Nettie wondered what her mother would say. Her dress and petticoats were caked with red mud. Her shoes squished water through the laces. Now perhaps I can go barefoot until my shoes dry, she thought. She hoped her mother would be so glad over the fish that she wouldn't scold.

News of Nettie's big catch spread among the wagons. A hungry crowd gathered to watch while Nettie's father dressed the fish. "Build up the fire," he said. "We'll all feast tonight. No ration of salt pork but fresh fish for all."

"And biscuits and syrup instead of corn bread?" Nettie asked her mother.

"Yes, Minette. All the biscuits and syrup and fish you can eat."

Nettie grinned a happy, tired grin. "I'll always remember how that fish almost swam away with me. I am going to write about it in my diary."

A Note from the Author:

This is a true story. A copy of Nettie Emory's diary was given to me by her granddaughter. From Nettie's entries about her trip on the Oregon Trail, written in 1863, I have retold her exciting adventure with the big fish. Of course I used imaginary conversation and descriptions. This is what Nettie wrote in her diary:

"I was allowed to fish with the men in the Missouri River. Suddenly a fish took my bait, and I was pulled to the water's edge. My father heard my call for help. He began to run when he saw me splashing in the water. Other men helped him land the fish while I went back to the wagon to dry out. The fish was over three feet long and weighed about 25 pounds. I was the only one who caught a fish that day but we shared it with the others."

From Cobblestone's December, 1981, issue: *The Oregon Trail*.
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Dorothea Dix: Quiet Crusader

by Lucie Germer

Dorothea Dix was so shy and quiet that it is hard to believe she had such a tremendous impact on ninteenth-century America. Yet almost single-handedly, she transformed the way people with mental illness were treated.

Dorothea was born in Maine in 1802 to a neglectful father and a mother who had trouble coping with daily activities. She ran away at the age of twelve to live with her grandmother, a cold, inflexible woman who nevertheless taught her the importance of doing her duty, as well as the organizational skills to help her do it.

Dorothea grew into an attractive woman, with blue-gray eyes, wavy brown hair, and a rich, low speaking voice. As a young adult, she spent her time teaching, writing books for children, and fighting the effects of tuberculosis. Despite her poor health, by age thirty-nine, she had saved enough money so that she had no financial worries. Afraid that her health was too poor for her to continue teaching, she looked forward to a lonely, unfulfilling life.

Then a friend suggested that she teach a Sunday school class for women in a Massachusetts jail. It would be useful without overtaxing her. On her first day, she discovered that among the inmates were several mentally ill women. They were anxious to hear what she had to say, but she found it impossible to teach them because the room was unheated. Dix, angry at this neglect on the part of the authorities, asked noted humanitarian Samuel Howe for his help in taking the case to court. The court ordered the authorities to install a wood stove.

This sparked Dix's interest in the ways mentally ill people were treated. Encouraged by Howe and education reformer Horace Mann, she spent two years visiting every asylum, almshouse, and jail in Massachusetts, quietly taking notes on the conditions. Her grandmother had trained her to be thorough, and the training paid off.

Dix put her findings into a memorial (a report) that Howe presented to the Massachusetts legislature: "I tell what I have seen. . . . [I]nsane persons confined . . . in cages, closets, cellars, stalls, pens; chained, naked, beaten with rods and lashed into obedience."

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The memorial caused an uproar: What kind of woman would be interested in such a subject and insist on discussing it in public? Gradually, the personal attacks abated, primarily because Dix's research had been so thorough and her results were so complete that no one could argue with them. Howe was able to push a bill through the Massachusetts legislature to enlarge the state asylum.

Dix spent the next few years systematically studying conditions and getting legislation passed in other states. Her health did not keep her from putting in long hours of hard work and travel. First, she studied the psychological and legal views of mental illness and its treatment. Before she went into a state, she examined local laws and previous proposals for change. Then she visited every institution, small or large, and met with administrators, politicians, and private citizens. She put all this information together in a memorial that was presented to the legislature. She also wrote newspaper articles to inform the public of her findings. By this time, she knew what kind of opposition to expect, and she could help deflect it by appealing to the citizens' sense of pride or desire for economy. She also met privately with small groups of politicians to answer their questions and try to persuade them to come around to her point of view. She was usually successful, and public institutions to house and treat people with mental illness were established.

Unfortunately, that success did not carry over to her next goal: national legislation to improve the living conditions for people with mental illness. In the 1850s, Congress passed a bill setting aside land for the establishment of national hospitals for those with mental illness, but President Franklin Pierce vetoed the bill on constitutional grounds.

Dix was shattered. Her health, which had been surprisingly good during her struggles, took a turn for the worse, and doctors recommended she take a long voyage. Dix was unable to relax, however, and her vacation turned into a marathon journey through Europe, as she examined the living conditions of mentally ill people in each place she visited. She spoke with doctors, government officials, and even the pope, pleading for humanitarian treatment for those who were mentally ill. She went as far east as Constantinople (now Istanbul) in Turkey and as far north as St. Petersburg (now Leningrad) in Russia. She was greeted respectfully everywhere she went, and many of her recommendations were followed.

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She returned to the United States in 1857 and was appointed superintendent of women nurses during the Civil War. Dix was the only woman to hold an official position in the U.S. government during the war.

After the war, Dix continued her work on behalf of mentally ill people both in the United States and abroad. She died in 1887 at the age of eighty-five. Between 1841, when she began her crusade, and the year she died, thirty-two new hospitals for those who were mentally ill were built, most of them directly because she had brought the problem to the attention of people in power. Several other institutions in Canada and Europe, and even two in Japan, were established because of her influence. She also left a legacy of concern: No longer was mental illness treated as a crime, and her enlightened and tireless work led to more humane living conditions for people with mental illness.

From *Cobblestone's* June, 1989, issue:
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To East Trenton

Weekdays
Including the following Holidays
Lincoln's Birthday
Veterans' Day

	TRENTON R.R. Station	TRENTON Justice Complex	TRENTON Hanover & Broad	EAST TRENTON Mulberry & Enterprise	HAMILTON Goodall Rubber
	A.M.	A.M.	A.M.	A.M.	A.M.
W	6.25	6.30	6.35	6.48	6.53
W	7.00	7.05	7.10	7.23	-
W	7.30	7.35	7.40	7.53	-
W	8.00	8.05	8.10	8.23	-
W	8.30	8.35	8.40	-	-
W	9.00	9.05	9.10	9.23	-
W	10.00	10.05	10.10	10.23	-
W	11.00	11.05	11.10	11.23	-
	P.M.	P.M.	P.M.	P.M.	P.M.
W	12.00	12.05	12.10	12.23	-
W	1.00	1.05	1.10	1.23	-
W	2.00	2.05	2.10	2.23	-
W	3.00	3.05	3.10	3.23	-
W	4.00	4.05	4.10	4.23	-
W	4.30	4.35	4.40	4.53	-
W	5.00	5.05	5.10	5.23	-
W	5.30	5.35	5.40	5.53	-
W	6.00	6.05	6.10	6.23	-
W	6.30	6.35	6.40	6.53	-

1082

NO SERVICE will be operated on Sundays or the following Holidays: New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day and Christmas Day.

Saturdays
Including the following Holidays
Martin Luther King Jr. Day
Presidents' Day
Good Friday
Columbus Day
Election Day

	TRENTON R.R. Station	TRENTON Hanover & Broad	EAST TRENTON Mulberry & Enterprise
	A.M.	A.M.	A.M.
W	7.00	7.08	7.21
W	8.00	8.08	8.21
W	9.00	9.08	9.21
W	10.00	10.08	10.21
W	11.00	11.08	11.21
	P.M.	P.M.	P.M.
W	12.00	12.08	12.21
W	1.00	1.08	1.21
W	2.00	2.08	2.21
W	3.00	3.08	3.21
W	4.00	4.08	4.21
W	5.00	5.08	5.21
W	6.00	6.08	6.21

1083

Notice to Wheelchair Passengers ♿

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NJ TRANSIT Customer Services

If you have a compliment or complaint regarding our service or employees, please call Customer Services Monday thru Friday 8:00 a.m. to 6:00 p.m.

In New Jersey	1 (800) 772-3606
Out of State	1 (201) 935-2500

How to use this schedule

1. Select day of week desired.
2. Locate direction of travel desired.
3. Locate time check point or alternate destination nearest you.
4. Locate time desired under check point.
5. Check meaning of footnotes, IF APPLICABLE.
6. Check bus destination sign before boarding.

Transit Information
(6 a.m. to 12 Midnight Daily)

Telephone Numbers for Bus, Train & Fare Information

Northern New Jersey	**1 (800) 772-2222**
Southern New Jersey	1 (800) 582-5946
Out of State	1 (201) 460-8444
*Hearing Impaired	1 (800) 772-2287

* (TTD/TTY - Daily, 6:00 a.m. to Midnight)

Prohibited on the bus

1. Smoking of any kind
2. Eating food and drinking beverages
3. Littering
4. Loud playing of radios

Exact Fare Line

Passengers are required to have exact fare in coins no larger than a quarter when boarding buses on this line. Drivers do not carry money and cannot make change.

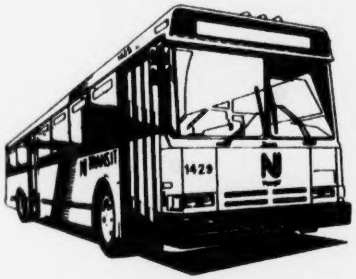
T0604-S-14M770-11/89

604 EAST TRENTON TRENTON RAIL STATION

(formerly L Line)

Serving: Trenton
♿ East Trenton
Trenton Rail Station
Labor & Industry Bldg.
Justice Complex
Hamilton

Effective: January 6, 1990



Information 1 (800) 772-2222

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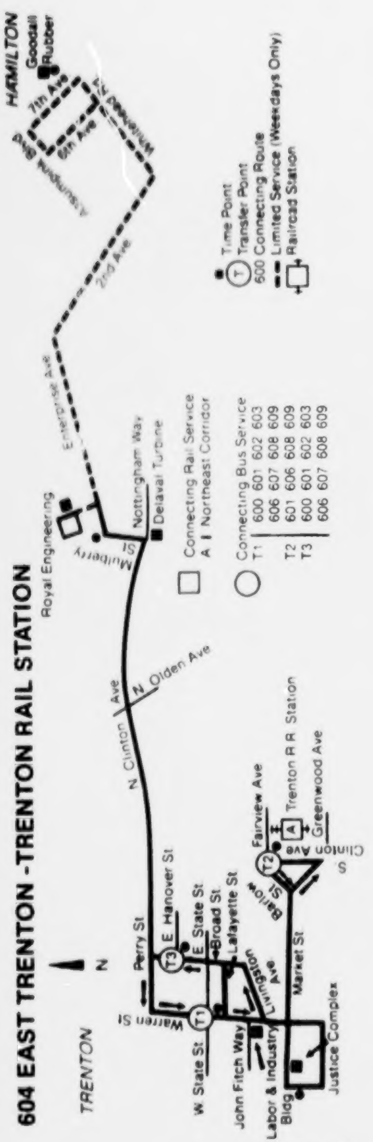
604 EAST TRENTON -TRENTON RAIL STATION
HAMILTON
Goodall Rubber
7th Ave
6th Ave
2nd Ave
Enterprise Ave
Royal Engineering
Nottingham Way
Delaval Turbine
Mulberry St
N. Olden Ave
N. Clinton Ave
Fairview Ave
Trenton R.R. Station
Greenwood Ave
Clinton Ave
S. Barlow St
E. Hanover St
E. State St
Broad St
Lafayette St
Livingston Ave.
Market St
Perry St
Warren St
W. State St
John Fitch Way
Labor & Industry Bldg
Justice Complex
TRENTON
N
Time Point
Transfer Point
600 Connecting Route
Limited Service (Weekdays Only)
Railroad Station
Connecting Rail Service
A | Northeast Corridor
Connecting Bus Service
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606 607 608 609
T2 | 601 606 608 609
T3 | 600 601 602 603
606 607 608 609

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NJ TRANSIT offers a variety of bus passes. For one discounted monthly price you can travel an unlimited number of times within the zone range indicated on your pass. Your pass is valid on all NJ TRANSIT or NJT subsidized routes (except: 320 - Lincoln Tunnel Park & Ride; 321 - Vince Lombardi Park & Ride; 322 - Meadowlands Park & Ride and 302 - NJ TRANSIT Newark Airlink) and selected private carriers. You'll never need a transfer or have to carry exact change again. The following passes are available:

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- **Intrastate Bus Card** - For travel on local lines WITHIN New Jersey
- **Intra-Commuter Pass** - For commuter travel via Routes 9 and 18 to Newark or Jersey City

Available at outlets throughout the State or by mail direct from **NJ TRANSIT - Mail-Fare -P.O. Box 180, Maplewood, N.J. 07040 Toll Free 1 (800) 648-0215.** Write or call for more information and an order form.

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Feeder Fare

NJ TRANSIT Rail Passengers displaying their Monthly Rail Pass to an NJ TRANSIT Bus Driver can get a Reduced Fare for a ride to or from a Rail Station.

To Trenton Rail Station

Weekdays

Including the following Holidays

Lincoln's Birthday
Veterans' Day

	HAMILTON Goodall Rubber	EAST TRENTON Mulberry & Enterprise	TRENTON State & Warren	TRENTON Justice Complex	TRENTON R.R. Station
	A.M.	A.M.	A.M.	A.M.	A.M.
W	-	5.55	6.08	6.12	6.17
W	-	6.25	6.38	6.42	6.47
W	6.55	7.00	7.13	7.17	7.22
W	-	7.25	7.38	7.42	7.47
W	-	7.55	8.08	8.12	8.17
W	-	8.25	8.38	8.42	8.47
W	-	9.25	9.38	9.42	9.47
W	-	10.25	10.38	10.42	10.47
W	-	11,25	11.38	11.42	11.47
W	-	P.M.	P.M.	P.M.	P.M.
W	-	12.25	12.38	12.42	12.47
W	-	1.25	1.38	1.42	1.47
W	-	2.25	2.38	2.42	2.47
W	-	3.25	3.38	3.42	3.47
	P.M.	-	-	-	-
W	3.50	3.55	4.08	4.12	4.17
W	-	4.25	4.38	4.42	4.47
W	-	4.55	5.08	5.12	5.17
W	-	5.25	5.38	5.42	5.47
W	-	5.55	6.08	6.12	6.17

1082

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Saturdays

Including the following Holidays

Martin Luther King Jr. Day
Presidents' Day
Good Friday
Columbus Day
Election Day

	EAST TRENTON Mulberry & Enterprise	TRENTON State & Warren	TRENTON R.R. Station
	A.M.	A.M.	A.M.
W	6.25	6.38	6.45
W	7.25	7.38	7.45
W	8.25	8.38	8.45
W	9.25	9.38	9.45
W	10.25	10.38	10.45
W	11.25	11.38	11.45
	P.M.	P.M.	P.M.
W	12.25	12.38	12.45
W	1.25	1.38	1.45
W	2.25	2.38	2.45
W	3.25	3.38	3.45
W	4.25	4.38	4.45
W	5.25	5.38	5.45
W	6.25	6.38	6.45

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The death of the hired man

Robert Frost

Mary sat musing on the lamp-flame at the table
Waiting for Warren. When she heard his step,
She ran on tip-toe down the darkened passage
To meet him in the doorway with the news
And put him on his guard. "Silas is back."
She pushed him outward with her through the door
And shut it after her. "Be kind," she said.
She took the market things from Warren's arms
And set them on the porch, then drew him down
To sit beside her on the wooden steps.
"When was I ever anything but kind to him?
But I'll not have the fellow back," he said.
"I told him so last haying, didn't I?
'If he left then,' I said, 'that ended it.'
What good is he? Who else will harbor him
At his age for the little he can do?
What help he is there's no depending on.
Off he goes always when I need him most.
'He thinks he ought to earn a little pay,
Enough at least to buy tobacco with,
So he won't have to beg and be beholden.'
'All right,' I say, 'I can't afford to pay
Any fixed wages, though I wish I could.'
'Someone else can.' 'Then someone else will have to.'
I shouldn't mind his bettering himself
If that was what it was. You can be certain,
When he begins like that, there's someone at him
Trying to coax him off with pocket-money—
In haying time, when any help is scarce.
In winter he comes back to us. I'm done."

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"Sh! not so loud: he'll hear you," Mary said.

"I want him to: he'll have to soon or late."

"He's worn out. He's asleep beside the stove.
When I came up from Rowe's I found him here,
Huddled against the barn-door fast asleep,
A miserable sight, and frightening, too—
You needn't smile—I didn't recognize him—
I wasn't looking for him—and he's changed.
Wait till you see."

"Where did you say he'd been?"

"He didn't say. I dragged him to the house,
And gave him tea and tried to make him smoke.
I tried to make him talk about his travels.
Nothing would do: he just kept nodding off."

"What did he say? Did he say anything?"

"But little."

"Anything? Mary, confess
He said he'd come to ditch the meadow for me."

"Warren!"

"But did he? I just want to know."

"Of course he did. What would you have him say?
Surely you wouldn't grudge the poor old man
Some humble way to save his self-respect.
He added, if you really care to know,
He meant to clear the upper pasture, too.
That sounds like something you have heard before?
Warren, I wish you could have heard the way
He jumbled everything. I stopped to look
Two or three times—he made me feel so queer—
To see if he was talking in his sleep.
He ran on Harold Wilson—you remember—

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The boy you had in haying four years since.
He's finished school, and teaching in his college.
Silas declares you'll have to get him back.
He says they two will make a team for work:
Between them they will lay this farm as smooth!
The way he mixed that in with other things.
He thinks young Wilson a likely lad, though daft
On education—you know how they fought
All through July under the blazing sun,
Silas up on the cart to build the load,
Harold along beside to pitch it on."

"Yes, I took care to keep well out of earshot."

"Well, those days trouble Silas like a dream.
You wouldn't think they would. How some things linger!
Harold's young college boy's assurance piqued him.
After so many years he still keeps finding
Good arguments he sees he might have used.
I sympathize. I know just how it feels
To think of the right thing to say too late.
Harold's associated in his mind with Latin.
He asked me what I thought of Harold's saying
He studied Latin like the violin
Because he liked it—that an argument!
He said he couldn't make the boy believe
He could find water with a hazel prong—
Which showed how much good school had ever done him.
He wanted to go over that. But most of all
He thinks if he could have another chance
To teach him how to build a load of hay—"

"I know, that's Silas' one accomplishment.
He bundles every forkful in its place,
And tags and numbers it for future reference,
So he can find and easily dislodge it
In the unloading. Silas does that well.

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He takes it out in bunches like big birds' nests.
You never see him standing on the hay
He's trying to lift, straining to lift himself."

"He thinks if he could teach him that, he'd be
Some good perhaps to someone in the world.
He hates to see a boy the fool of books.
Poor Silas, so concerned for other folk,
And nothing to look backward to with pride,
And nothing to look forward to with hope,
So now and never any different."

Part of a moon was falling down the west,
Dragging the whole sky with it to the hills.
Its light poured softly in her lap. She saw
And spread her apron to it. She put out her hand
Among the harp-like morning-glory strings,
Taut with the dew from garden bed to eaves,
As if she played unheard the tenderness
That wrought on him beside her in the night.
"Warren," she said, "he has come home to die:
You needn't be afraid he'll leave you this time."

"Home," he mocked gently.

"Yes, what else but home?
It all depends on what you mean by home.
Of course he's nothing to us, any more
Than was the hound that came a stranger to us
Out of the woods, worn out upon the trail."

"Home is the place where, when you have to go there,
They have to take you in."

"I should have called it
Something you somehow haven't to deserve."

Warren leaned out and took a step or two,
Picked up a little stick, and brought it back

GO ON TO THE NEXT PAGE

And broke it in his hand and tossed it by.
"Silas has better claim on us, you think,
Than on his brother? Thirteen little miles
As the road winds would bring him to his door.
Silas has walked that far no doubt today.
Why didn't he go there? His brother's rich,
A somebody—director in the bank."

"He never told us that."

"We know it though."

"I think his brother ought to help, of course.
I'll see to that if there is need. He ought of right
To take him in, and might be willing to—
He may be better than appearances.
But have some pity on Silas. Do you think
If he'd had any pride in claiming kin
Or anything he looked for from his brother,
He'd keep so still about him all this time?"

"I wonder what's between them."

"I can tell you.
Silas is what he is—we wouldn't mind him—
But just the kind that kinsfolk can't abide.
He never did a thing so very bad.
He don't know why he isn't quite as good
As anyone. He won't be made ashamed
To please his brother, worthless though he is."

"I can't think Si ever hurt anyone."

"No, but he hurt my heart the way he lay
And rolled his old head on that sharp-edged chair-back.
He wouldn't let me put him on the lounge.
You must go in and see what you can do.
I made the bed up for him there tonight.
You'll be surprised at him—how much he's broken.
His working days are done; I'm sure of it."

GO ON TO THE NEXT PAGE

"I'd not be in a hurry to say that."

"I haven't been. Go, look, see for yourself.
But, Warren, please remember how it is:
He's come to help you ditch the meadow.
He has a plan. You mustn't laugh at him.
He may not speak of it, and then he may.
I'll sit and see if that small sailing cloud
Will hit or miss the moon."

It hit the moon.
Then there were three there, making a dim row,
The moon, the little silver cloud, and she.

Warren returned—too soon, it seemed to her,
Slipped to her side, caught up her hand and waited.

"Warren," she questioned.

"Dead," was all he answered.

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THE BATTLE OF LEXINGTON

Passage A

In April 1775, General Gage, the military governor of Massachusetts, sent out a body of troops to take possession of military stores at Concord, a short distance from Boston. At Lexington, a handful of "embattled farmers," who had been tipped off by Paul Revere, barred the way. The "rebels" were ordered to disperse. They stood their ground. The English fired a volley of shots that killed eight patriots. It was not long before the swift riding Paul Revere spread the news of this new atrocity to the neighboring colonies. The patriots of all of New England, although still a handful, were now ready to fight the English. Even in faraway North Carolina, patriots organized to resist them.

Samuel Steinberg, *The United States: Story of a Free People* (1963)

Passage B

At five o'clock in the morning the local militia of Lexington, seventy strong, formed up on the village green. As the sun rose the head of the British column, with three officers riding in front, came into view. The leading officer, brandishing his sword, shouted, "Disperse, you rebels, immediately!"

The militia commander ordered his men to disperse. The colonial committees were very anxious not to fire the first shot, and there were strict orders not to provoke open conflict with the British regulars. But in the confusion someone fired. A volley was returned. The ranks of the militia were thinned and there was a general *melee*. Brushing aside the survivors, the British column marched on to Concord.

Winston Churchill, *History of the English-Speaking Peoples* (1957)

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Passage C

The British troops approached us rapidly in platoons, with a General officer on horse-back at their head. The officer came up to within about two rods of the centre of the company, where I stood.—The first platoon being about three rods distant. They there halted. The officer then swung his sword, and said, "Lay down your arms, you damn'd rebels, or you are all dead men—fire." Some guns were fired by the British at us from the first platoon, but no person was killed or hurt, being probably charged only with powder. Just at this time, Captain Parker ordered every man to take care of himself. The company immediately dispersed; and while the company was dispersing and leaping over the wall, the second platoon of the British fired, and killed some of our men. There was not a gun fired by any of Captain Parker's company within my knowledge.

Sylvanus Wood, Deposition (June 17, 1826)

Passage D

I, John Bateman, belonging to the Fifty-Second Regiment, commanded by Colonel Jones, on Wednesday morning on the nineteenth day of April instant, was in the party marching to Concord, being at Lexington, in the County of Middlesex; being nigh the meeting-house in said Lexington, there was a small party of men gathered together in that place when our Troops marched by, and I testify and declare, that I heard the word of command given to the Troops to fire, and some of said Troops did fire, and I saw one of said small party lay dead on the ground nigh said meeting-house, and I testify that I never heard any of the inhabitants so much as fire one gun on said Troops.

John Bateman, Testimony (April 23, 1775)

THE CIVIL WAR IN THE UNITED STATES: THE BATTLE OF SHILOH

Here are two perspectives on the battle of Shiloh which was part of the American Civil War. Each of the two passages was taken from a different source; the first is from a soldier's journal and the second is from an encyclopedia. Read them and see how each passage makes a contribution to your understanding of the battle of Shiloh and the Civil War. Think about what each source tells you that is missing from the other source, as well as what each one leaves out.

Journal Entry

The following journal entry relates the noise, confusion, and horror of the battle of Shiloh as told by a Union officer.

On the evening of the 5th, the 18th Wisconsin infantry arrived and were assigned to General Prentiss' division, on the front. They cooked their first suppers in the field that night at nine o'clock, and wrapped themselves in their blankets, to be awakened by the roar of battle, and receive, thus early, their bloody baptism. Before they had been on the field one day, their magnificent corps was decimated, most of the officers killed.

On going to the field the second day, our regiment strode on in line over wounded, dying, and dead. My office detaching me from the lines, I had an opportunity to notice incidents about the field. The regiment halted amidst a gory, ghastly scene. I heard a voice calling, "Ho, friend! ho! Come here." I went to a pile of dead human forms in every kind of stiff contortion; I saw one arm raised, beckoning me. I found there a rebel, covered with blood, pillowing his head on the dead body of a comrade. Both were red from head to foot. The live one had lain across the dead one all that horrible, long night in the storm. The first thing he said to me was "Give me some water. Send me a surgeon—won't you! What made you come down here to fight us? We never would have come up there." And then he affectionately put one arm over the form, and laid his bloody face against the cold, clammy, bloody face of his friend.

I filled his canteen nearly—reserving some for myself—knowing that I might be in the same sad condition. I told him we had no surgeon in our regiment, and that we would have to suffer, if wounded, the same as he; that other regiments were coming, and to call on them for a surgeon; that they were humane.

"Forward!" shouted the Colonel; and 'Forward' was repeated by the officers. I left him.

The above recalls to mind one of the hardest principles in warfare—where your sympathy and humanity are appealed to, and from sense of expediency, you are forbidden to exercise it. After our regiment had been nearly annihilated, and were compelled to retreat under a galling fire, a boy was supporting his dying brother on one arm, and trying to drag him from the field and the advancing foe. He looked at me imploringly, and said, "Captain, help him—won't you? Do, Captain; he'll live." I said, "He's shot through the head; don't you see? and can't live—he's dying now." "Oh, no, he ain't, Captain. Don't leave me." I was forced to reply, "The rebels won't hurt him. Lay him down and come, or both you and I will be lost." The rush of bullets and the yells of the approaching enemy hurried me away—leaving the young soldier over his dying brother.

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At home I used to wince at the sight of a wound or of a corpse; but here, in one day, I learned to be among the scenes I am describing without emotion. My friend and myself, on the second night, looking in the dark for a place to lie down, he said, 'Let's lie down here. Here's some fellows sleeping.' We slept in quiet until dawn revealed that we had passed the night among sprawling, stiffened, ghastly corpses. I saw one of our dead soldiers with his mouth crammed full of cartridges until the cheeks were bulged out. Several protruded from his mouth. This was done by the rebels. On the third day most of our time was employed in burying the dead. Shallow pits were dug, which would soon fill with water. Into these we threw our comrades with a heavy splash, or a dump against solid bottom. Many a hopeful, promising youth thus indecently ended his career.

I stood in one place in the woods near the spot of the engagement of the 57th Illinois, and counted eighty-one dead rebels. There I saw one tree, seven inches in diameter, with thirty-one bullet holes. Such had been death's storm. Near the scenes of the last of the fighting, where the rebels precipitately retreated, I saw one grave containing one hundred and thirty-seven dead rebels, and one side of it another grave containing forty-one dead Federals.

One dead and uniformed officer lay covered with a little housing of rails. On it was a fly-leaf of a memorandum-book with the pencil writing: 'Federals, respect my father's corpse.' Many of our boys wanted to cut off his buttons and gold cord; but our Colonel had the body religiously guarded.

My poor friend, Carson, after having fought and worked, and slaved from the beginning of the war, unrequited, comparatively, and after having passed hundreds of hair-breadth escapes, and through this wild battle was killed with almost the last shot. A round shot took off his whole face and tore part of his head. Poor Carson! We all remember your patriotism, your courage, your devotion. We will cheer, all we can, the bereaved and dear ones you have left.

"Battle of Shiloh" from *Civil War Eyewitness Reports*,
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Encyclopedia Entry

The last account you will read of the battle comes from an encyclopedia.

SHILOH, Battle of, shīlō, one of the most bitterly contested battles of the American Civil War, fought on April 6 and 7, 1862, in southern Tennessee, about 100 miles (160 km) southwest of Nashville. The first great battle of the war had been fought at Bull Run (Manassas) in Virginia in July 1861, nearly a year before. It had ended in a temporary stalemate in the eastern theater. In the West, Kentucky tried to remain neutral, but by the end of 1861 both sides had sent troops into the state.

In February 1862, Union General Ulysses S. Grant captured forts Henry and Donelson on the Tennessee and Cumberland rivers in northern Tennessee near the Kentucky boundary, taking about 11,500 men and 40 guns. The whole Confederate line of defense across Kentucky gave way. The Confederates were forced to retreat to Murfreesboro, Tenn., southeast of Nashville, as other Union forces moved toward Nashville.

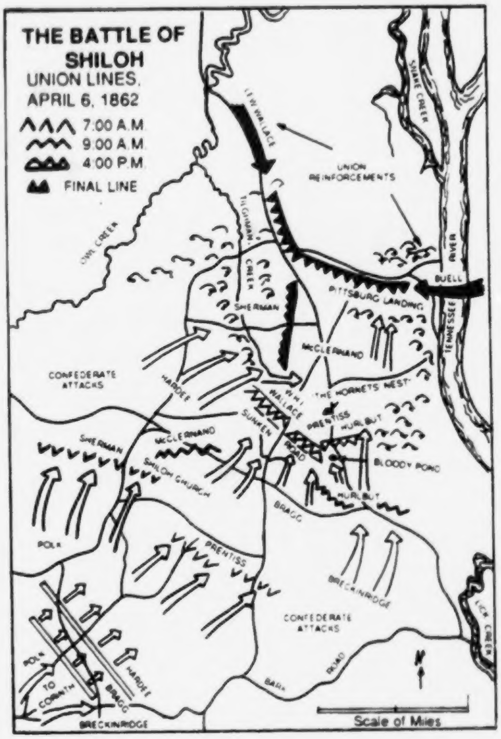
With the Southern press clamoring for his removal, General Albert Sidney Johnston, commanding the Confederate forces in the region, began to assemble the scattered troops. He decided to designate Corinth, in the northeast corner of Mississippi, as the concentration point for the army.

Assembling of the Armies. By the end of March, Johnston and his second-in-command, General Pierre G.T. Beauregard, managed to gather in Corinth more than 40,000 men, including a few units from as far away as the Gulf of Mexico. These were organized into three corps, commanded by Generals Leonidas Polk, Braxton Bragg, and William J. Hardee. There was also a small reserve corps under General John C. Breckinridge.

Meanwhile, General Henry W. Halleck, who was Grant's department commander, had ordered Grant's troops to make a reconnaissance southward along the Tennessee River. They encamped near Pittsburg Landing, on the west side of the river, about 5 miles (8 km) north of the Mississippi boundary. There they awaited the arrival of another large Union force under General Don Carlos Buell, which had been ordered southward from Nashville to join them.

Grant's army of 42,000 men was divided into six divisions. Five of these, a total of 37,000, were near Pittsburg Landing. One division, under General Lew Wallace's command, was stationed 6 miles (9 km) to the north. Buell's army marching from Nashville was almost as large as Grant's; together they would far outnumber the concentration of forces that the Confederates could put in the field.

General Johnston saw that he must strike Grant's army before Buell arrived. The Confederates started northward from Corinth on the afternoon of April 3, intending to attack at dawn on the 5th, but a violent rainstorm turned the dirt roads into a sea of mud. The attack was postponed from the 5th to Sunday, April 6, but on the 5th the leading division of Buell's army arrived on the other side of the Tennessee River, only 7 miles (11 km) away.


THE BATTLE OF SHILOH
UNION LINES, APRIL 6, 1862
7:00 A.M.
9:00 A.M.
4:00 P.M.
FINAL LINE
LEW WALLACE
UNION REINFORCEMENTS
SNAKE CREEK
OWL CREEK
TILGHMAN CREEK
SHERMAN
RIVER
BUELL
PITTSBURG LANDING
TENNESSEE
McCLERNAND
CONFEDERATE ATTACKS
HARDEE
W.H.L. WALLACE
THE HORNETS' NEST
SUNKEN ROAD
PRENTISS
HURLBUT
BLOODY POND
SHERMAN
McCLERNAND
SHILOH CHURCH
BRAGG
HURLBUT
POLK
PRENTISS
BRECKINRIDGE
CONFEDERATE ATTACKS
LICK CREEK
POLK
TO CORINTH
HARDEE
BRAGG
BARK ROAD
BRECKINRIDGE
N
Scale of Miles

That night the armies encamped only 2 miles (3 km) apart, with the Union forces, whose advanced units were about 4 miles (6 km) west of the river, wholly unaware of their danger. Neither they nor their leaders expected an attack. They were not disposed for defense, nor had any trenches been dug for their protection. Early in the morning of April 6, a suspicious brigade commander in General Benjamin M. Prentiss' Union division sent a small force forward to investigate the nearby woods. At dawn they exchanged shots with the Confederate outpost, but it was too late to give warning of the attack, which burst on the Union camps.

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Confederate Attack. For the assault, General Johnston had chosen an unusual formation. He formed his troops in three lines, with Hardee's corps in front, Bragg's corps in a second parallel line, and then Polk's and Breckenridge's reserve corps.

The Confederates charged straight to their front into the divisions of Prentiss and General William Tecumseh Sherman, who held the right flank near the Old Shiloh Church. They and General John A. McClernand's division made a brief stand. Many men fought valiantly, but others broke and fled. When Grant, who had been absent from the field, arrived he found all five of the divisions fighting desperately in what seemed like a hopeless struggle. He had already sent for Buell's troops, and now he sent for Lew Wallace to join him.

The Union forces had retreated about halfway to the river to a new position, naturally strong, with open fields on each side and a sunken road in front. Here, in the center, in a position known to history as "The Hornets' Nest," the Confederates were halted for hours. They could not take it by assault, but gradually the Union troops on each flank were forced back. Johnston fell mortally wounded. Beauregard took command, and the attack continued.

Finally "The Hornets' Nest" was surrounded. General William H.L. Wallace was killed trying to lead his division out. Prentiss was forced to surrender, but time was running out for the Confederates. They made a last attack on the Union left toward Pittsburg Landing to cut off the escape of the Union forces, but Buell's troops were now arriving.

Union Counterstroke. On the next day, Grant attacked. Of the soldiers who had fought on the first day, he had only about 7,000 effectives, (soldiers ready for battle), but Lew Wallace had arrived with his 5,000, and Buell had supplied 20,000 more. To oppose these, the Confederates could muster only about 20,000 men. For hours they held the line in front of Shiloh Church, but at last they withdrew in good order from the field.

The Battle of Shiloh, the second great battle of the war, was a tremendous shock to the people of the North and the South. When the reports were published, they found that each side had lost about 25% of the troops engaged—the Confederates about 10,700, the Union more than 13,000. The people suddenly realized that this was to be a long and bloody war.

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